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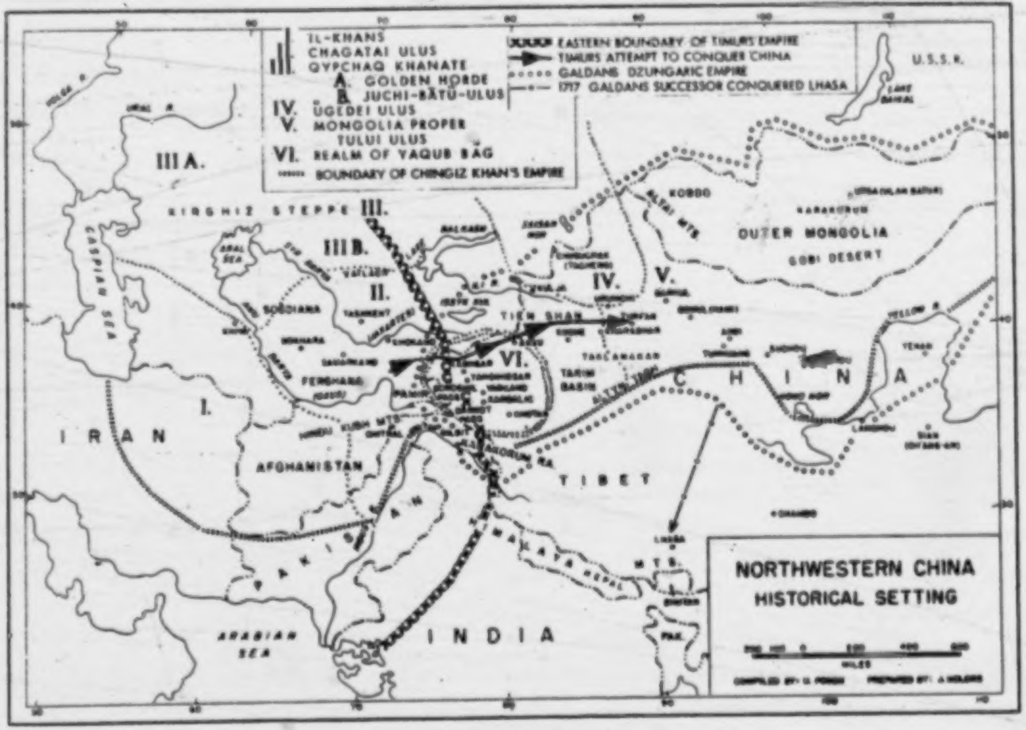
NORTHWESTERN CHINA
HISTORICAL SETTING
I. IL-KHANS
II. CHAGATAI ULUS
III. QYPCHAQ KHANATE
A. GOLDEN HORDE
B. JUCHI-BĀTU-ULUS
IV. ÜGEDEI ULUS
V. MONGOLIA PROPER
TULUI ULUS
VI. REALM OF YAQUB BĀG
BOUNDARY OF CHINGIZ KHAN'S EMPIRE
EASTERN BOUNDARY OF TIMURS EMPIRE
TIMURS ATTEMPT TO CONQUER CHINA
GALDANS DZUNGARIC EMPIRE
1717 GALDANS SUCCESSOR CONQUERED LHASA
U.S.S.R.
LAKE BAIKAL
III A.
KIRGHIZ STEPPE
III.
III B.
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VI.
I.
ARAL SEA
CASPIAN SEA
BALKASH
KOBDO
ALTAI MTS
KARAKORUM
OUTER MONGOLIA
GOBI DESERT
SOGDIANA
BOKHARA
TASHKENT
SAMARKAND
FERGHANA
TIEN SHAN
TURFAN
TARIM BASIN
KASHGAR
YARKAND
KHOTAN
C H I N A
IRAN
AFGHANISTAN
PAKISTAN
TIBET
LHASA
INDIA
ARABIAN SEA
HIMALAYA MTS.
NEPAL
BHUTAN
LANCHOW
SIAN
MILES
COMPILED BY: G. POHISH PREPARED BY: J. HOLMES

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GEOGRAPHICAL BACKGROUND

I. The Physical Setting

A. Location and Importance.

13 Lanchou, the capital of Kansu, is the geographic center of China. If one draws a horizontal line from west to east and a vertical line from south to north, he finds that the northwest quarter of China just covers the whole area of Sinkiang, Kansu, and Chinghai or Koko Nor. Owing to scanty rainfall, a great part of the area is a vast desert, dotted with oases and strips of cultivation, It is generally classified as the interior continental desert and steppe region of China.

771 From the viewpoint of geographic location, Northwest
184 China, especially Kansu Province, is a transitional zone of
cultural variations. Religions, for example, are different.
From Kansu northwestward to Sinkiang, the majority of the
inhabitants are Mohammedans. Contrarily, southeastward to
China proper, there is more Buddhism and Christianity.
241 Again, Kansu furnishes a natural boundary for economies.
233 From the eastern end of Kansu southeastward the area is
mainly agricultural, while the area northwest from Kansu is
182 largely a pastoral region. People there are adapted to a nomadic
life with a relatively self-sufficient economy. As a result, the
trading activity is small. It is limited to a small village or an
isolated oasis.

131 The area is adjacent to the Mongolian People's Republic on the north and northwest and the Tibetan Plateau on the southwest. Moreover, it lies in the path of direct communication with Soviet Russia through the narrow plain of the Kansu Corridor by way of Sinkiang in the extreme northwest. It is an important part of China as a strategic pivot linking Asia and Europe and it is the great joint between Inner Asia and the Pacific coast.

133 B. Surface Features.

The physical features of northwest China generally may be classified as plateaus. However, viewed in terms of the present relief of Kansu, the high lands are all located along the southern border of the province. They are generally called the Ch'i-lien-shan, the Nan-shan, or the Southern Mountains. This mountain range forms the natural boundary between Kansu to the north and Chinghai to the south. There are a few passes situated in this mountain range with an average height of 12,900 feet. The length of the Chi-lien-shan is roughly estimated at 570 miles. Its east end is dissected by the streams of the upper Yellow River into a few isolated

133 mountains, notably the Chin-ling and Mei-chang, forming the boundaries of southern Shensi and northern Szechwan. Water separates the low lands between the mountains, and there are several notable basins such as Han-chung Basin. Except in the Chin-ling section, the mountain range is rather bare and has little vegetation. The slopes along the Chi-lien-shan are strewn with pebbles; stone debris, and red deposits of the gravels. Valleys form vast corridors several miles wide between the mountain ranges. In the central area, where the topography is more level, pebbles, sand dunes, pastures, and swamps appear. The Chi-lien-shan region is suitable primarily for a grazing economy. However, most of the flat [241] land in the valleys has been opened for agricultural use. Spring wheat, millet, linseed, and colze are grown nearly everywhere in the region and form the major foodstuffs of the people.

The Chi-lien-shan is the major mountain range in this section [103] of Northwest China. It has received various names. The eastern end of the range is called the Liu-pan-shan or the "six coil mountain." The upper Yellow River cuts a gap through the links of the mountain range so that the Liu-pan-shan is an isolated mountain from which the Yellow River runs north and northeastward. The Wei River, one of the major tributaries of the Yellow River, runs along the south edge of the Liu-pan-shan eastward to Shensi Province, along the northern piedmont of the Chin-ling-shan eastward to Shensi Province, along the northern piedmont of the Chin-ling-shan. North of the Wu-shaling, or Dark Sand Peak, 120 miles northwest of Lanchou, a narrow strip of land extends along the northern foot of the Ch'i-lien-shan. From here westward, the land is relatively flat and plain. This area is called the Kansu Corridor. It is the important passageway to the Northwest of China.

All streams, as well as meltwater, come down from the Ch'i-lien-shan and run toward the north or northeast. Some streams disappear into the desert after a short distance. This is the case almost everywhere in Northwest China. This is one of the main reasons why agricultural products cannot be evenly distributed and dependably developed in the area.

Geologically speaking, the Tertiary formation appears in a number of basins in Kansu Province. The beds are generally composed of red clays, conglomerates, red sandstones, and gypsum. The geological structures remain the same to the mountain ranges of both the north and the south, the Ch'i-lien-shan and the Ho-li-shan, which is submerged into the Mongolian Gobi and the semi-steppes. They are mainly composed of Silurian and Devonian structures resting unconformably on older

133 formations. The unconformity and faults are due to the mountain making movement in the Palaeozoic and Mesozoic stages. All these constructional mountains extend from northwest to southeast, paralleling each other.

Although the Ch'i-lien Mountains provide a natural screen between Kansu on the north and Chinghai on the south, there are many passes in the mountainous areas. Generally speaking, all the passes are around 9,000 feet high. For instance, Pien-tu-k'ou, on the upper stream of the Hung-shui is at the elevation of 8,100 feet; Peh-yai-k'ou on the upper stram of Shan-tan-ho is at the height of 9,800 feet; Wu-lung-k'ou on the upper stream of Kou-shui is at the height of 8,400 feet. All of these are well-known passes. However, Pien-tu-k'ou is the short-cut from the central portion of Kansu to the main section of Chinghai Province, and it covers the shortest distance from Chiang-ye to Sining, the capital city of Chinghai.

The topographical features of Kansu are rather open and simple on the west and northwest in contrast to the southeast, where the land has suffered local deflections and dislocations from earthquakes. The Shu-le River runs through the northwest corner of Kansu, and projects westward to the eastern border of Sinkiang Province. The altitude is about 3,000 feet. There are fewer mountains in the northwestern section of Kansu, simply a few hilly lands merging into the desert. Although the Shu-le River is the major water system in western Kansu, water constantly sins and disappears into the sandy gravels after it runs down from the hilly lands.

South from the Ch'i-lien-shan is the Chinghai Plateau. Linking with the Tibetan Plateau to the south, it forms the huge plateau region of west China. The Kun-lun mountain ranges run through the core of the area, projecting eastward to form a few paralleling ranges. The southwestern section of the area is much higher and its topography is rugged in comparison with the northern section. Two notable basins, the Tsaidam and the Sining, are situated between the Ch'i-lien Mountains to the north and the Kun-lun Mountains to the south. In the western sections of the area there are numerous lakes and streams which are the sources of the most important river systems of China, namely the Yellow River and the Yangtze River. The Tsaidam Basin is swampy. Its elevation is estimated at some 8,100 feet with the western edge of the basin much sharper than the eastern margin. The Chinghai Basin, in the eastern section of the area, is the most essential one. It is named after the salt lake, Koko Nor. Sining is the major city
[633] in this basin. It is not only the pivot station between the Mongolian Gobi and the Tibetan Plateau but also the economic and political center of Chinghai.

N 315 new oil plants at Tu-shan-tzu in Sinkiang. Undoubtedly, the
S exploitation of the Yü-men oil field of Kansu has been consid-
[315] erably increased in the last two years. At a conference on pet-
N roleum research, called in May, 1954, by the Ministry of
315 Fuel, Popoff, a Russian professor, laid great emphasis on the
648 development of Yü-men oil fields, where Russians have been
177 working side by side with German, Czech, and Rumanian oil
experts (KM Oct. 1, 1954). Towards the end of 1953 the Russian
Atlas (sic!) was experimenting there on an improved method
of oil exploitation which was to be introduced in 1954 (PD
Feb. 9, and June 23, 1954).

N Special emphasis on oil prospecting and drilling are given
315 by the Communist Government. Throughout the nation, geological
654 surveying and prospecting plans since 1953 have been the most
inttensive in China's history. Total Government investment
in surveying in the Northwest in 1953 was nearly seven times
more than the previous year. Twice as many oil wells were
planned to be sunk in 1953 as compared to 1952, while work
on other mineral reserves topped previous years' quota by
thirty-three percent.

The bureau in charge of prospecting and surveying mineral reserves in the Northwest trained nearly 2,000 workers in drilling, surveying, drawing, and analysis in 1953. (Geological Report, China Monthly Review, May, 1953).

N The first drilling for oil was made some sixty years ago
315 at Yen-chang in northern Shensi province. During the Anti-
Japanese war, China spent large sums to equip the China
National Petroleum Corporation's field at Yü-men in Kansu.
At present, the major production is at Shih-you-ho near
N Yü-men in the most northwestern part of Kansu at the foot of
the Nan-shan. There the possible oil-bearing formations ex-
[133] tend 700 miles, with a width of some tens of miles. Seepages
are known in four localities, but only a few anticlines have
N been developed. Drilling started in 1939, and the yield amounts
[433] to several thousand barrels a day. The oil has a fifteen percent
paraffin base. Prospects in Sinkiang appear even more pro-
S mising, with oil on both sides of the Tien-shan Mountain Range.
315 Drilling at Wu-su, west of Urumchi and in the northern foot-
[648] hills of Tien-shan began in 1935, under Soviet direction. Its
[433] current yield is only a few hundred barrels a day. However, some
new fields have been discovered and new wells drilled in other
parts of the province.

N Recently, both oil-extracting and refining industries have
315 been growing rapidly. Refining facilities in northwest China
S with its five oil regions distributed in north Shensi, West
[315] Kansu, central Kansu, and Ho-hsi corridor and Sinkiang have
been substantially extended. Petroleum development is one of

315 the factors that should soon turn the once poor and desolate expanses of the Northwest into a major industrial area. At the National Petroleum Exhibition, held in Peking in December 1951, an illuminated chart showed that the Northwest is one of the principal sources of oil in the country. (China is rich in oil, China Reconstructs, No. 2, May-April, 1952).

Oil Development in Shensi:

In 1925, Mr. Brouyard, Chief Engineer of the Cheng-tai Railway (a branch of the Peking-Hankow Railway - from Cheng-ting in West Hopei to Taiyuan, the capital of Shansi province), in making a survey for a proposed line from Taiyuan to Sian, the capital of Shensi, explored the petroliferous region east of Yenan, along the Yen-shui and the ravines, locally known as "petroleum ravines," above and below Yen-ch'ang in northern Shensi. An oil plant has been established in Yen-ch'ang, but the cost of transport has confined its market to the adjacent area in Shensi. 6 The present plant at Yen-ch'ang is small and poor, even for handling the small amount of crude oil produced there. Some deposits of oil shale are found in the southern part of the province, in the districts of Pao-chang and Chung-shan.

[131] The North Shensi Basin lies in the north of that province, roughly between thirty-five and forty North Latitude and 107 and 111 East Longitude. The boundary on the east is the Huang-ho or Yellow River, and the oil seepages lie in that part of the basin south of the Great Wall in the valleys of Yen-shui, Lo-ho, and Wei-ho rivers. In Yen-ch'ang, from [648] 1907 to 1914, the Chinese drilled several shallow wells, and from 1914 to 1916 the Standard Oil Company of New York drilled two wells to 1,950 feet and 2,700 feet. This company also drilled five other wells in the basin in the three years they were there, the deepest being 3,500 feet, but results were not satisfactory. After this the Chinese drilled some thirty more wells, but none yielded much oil. Because of the smallness of the seepages and the unfavpragle geological structures, the basin cannot be considered promising. (See Table I.);[1]

Oil Development in Kansu:

The oil reserves of Kansu province are among the richest in the country. China's biggest oil field, Yümen, is located in the northwestern part of the province, and the largest production at present comes from the Shih-you-ho plant. A long sinuous basin stretches some 700 miles northwest with a width of some 100 miles in the east part and from a few miles to sixty miles in the west. Mountain masses border the basin on the northeast [133] and southwest. The oil beds are located in loose sandstones and conglomerates of upper Cretaceous and lower Tertiary age. Possibly the oil originated in Permian or Jurassic formations,

[1] [See p. 128--Analyst]

315 and more oil sands may be found in the sands between the
(133) source beds and the present shallow reservoirs, which would
increase the reserves a great deal. Oil seepages have been
discovered at Wen-chu-shan, south of Chung-yüan (36.37 by
104.32), Shan-hsien-tzu, south of Yung-teng (36.44 by 103.24);
Ching-tu-chen, north of Yung-cheng (38.17 by 102.07) and near
Yü-men (40.15 by 97.13). Only one oil field has been developed
in this basin - the Shih-you-ho, southwest of Yü-men at approximately
39.46 by 97.33 and near the last seepage.

(648) In 1937 the Standard-Vacuum Oil Company sent a party of
geologists in to examine the field. After a study of its report
the Chinese Government decided to develop the Shih-you-ho
anticline. Actual drilling started in February, 1939, on the
crest of the anticline near the oil seepage and sent to 492
feet and produced twenty barrels a day from two small oil
sands. A second well nearby to a depth of 656 feet gave
thirty-five barrels a day. These wells were drilled on the floor
of the canyon by two small cable rigs and a small boiler.
Then two rotary drills with Diesel engines were brought in
from the coal mines. Nineteen holes in all were drilled up to
(433) March, 1944, the deepest being near 1,400 feet. Number 18
well at 1,313 feet came in with 10,000 barrels a day, but blew
out cratering the hole. On account of small refinery capacity,
only 4,000 barrels of crude could be handled a day. Until a
larger and better refinery can be brought in, the wells now
drilled supply the crude oil needed. The oil is a paraffin base,
with 15.5 percent paraffin content, which is difficult to handle
at low temperatures in that part of the country. It is impossible
to estimate the potential reserves at present, but the extent
of the anticlinal structure offers great promises. A geologist
who visited the field in 1943 said that there may be twenty-six
to forty-six million barrels of recoverable oil in the pool.
(133) Within the radius of eighteen miles of this field are three other
anticlinal structures in the Tertiary sediments that warrant
investigation. Other likely structures will probably be discovered
as the basin is thoroughly examined.

315 The production of oil at the Yü-men field increased to
433 4,000,000 gallons in 1946. With the completion of thirteen
construction projects in early 1955. its production has been
considerably increased as well as greatly improved in the
refining process of the oil produced. According to press reports,
the Yü-men oil fields reported over-fulfillment of production
targets for the first quarter of 1955. The oil fields administration
stated that output targets for gasoline, kerosene, diesel, and
lubricating oil and other items were surpassed by seven to
fifty-one percent in the first quarter. (NCNA, April 14, 1955).
It was also said that a number of the newly-completed projects

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N
131 Italy combined, but the population of the whole Northwest
161 Region is only about thirty-five million.

Northwest China is an area of 1,232,159 square miles, one third the size of all China, with a population only 5.8 percent of the nation's total. It represents, however, a great complexity both geographically, culturally, and ethnically.

N
The region is characterized, even more than the nation
133 as a whole, as a unity with diversity. Its entity is partially
161 cultural with a predominant religion of Islam and a common
(171) historical as well as political background. While climatic
(132) conditions are relatively uniform, ranging from semi-arid
to arid of the extreme temperate continental type, its physiographic features very considerably. In addition to the thickly peopled humid and mild Han-chung Basin in Southern Shensi, there are large low-lying rich fertile riverine plains along the Wei-ho, Huang-shui, and some parts of the main Yellow River, as around Lanchou of Kansu and near Yin-chuan (Ninghsia) plus the Ili valley of Sinkiang and numerous small oases scattered along the foot of the snow-capped high mountain ranges of Nan-shan or Chi-lien, Kunlun, and Tien-shan. They are thickly populated areas either in large stretches or isolated pockets. Next come the vast plateaus and deserts of Alashan, Khara Gobi, Takla Makan, and Northeastern Dzungaria forming an extension of the Great Gobi of the Mongolian plateau. Each of them is enormous, e.g., Takla Makan desert occupies half of the Tarim Basin (910,000 square kilimeters). They are practically uninhabited except for a few small oases scattered here and there. Next are the arid and semi-arid upland basins of Tsaidam and Koko Nor in the province of Chinghai and Southern Dzungaria of northern Sinkiang. The semi-arid steppes are occupied by pastoral nomads, while the ared portion is either inhospitable or very thinly populated. Last come the lofty mountains. Some of them are snow-capped with alpine pastures and forests like Tien-shan, Nan-shan and the Altai mountains. Some of them are barren and rugged like the Kunlun, Bayan Khara, and Altyn-tagh. The former provide natural bases for the development of transhumance and lumbering, while the latter precludes any permanent human settlement, except for a few high mountain passes which are occasionally traversed by traders and travelers, such as across the mountains of Kunlun, Bayan Khara and the Pamir.

N
As to historical and political relations with China, there are
172 two distinct parts. Shensi and Kansu (excluding Ninghsia) are
the sites of ancient Chinese culture - the archaeological finds of the "Oracle Bones" of the Shang Dynasty and the Yang-sha pottery in Shensi and Kansu date back at least to one to two millennia B.C. The Wei-ho valley plain is the cradle of Chinese civiliation.

N 161 (Continued)

Major Regions	Population (1953 Census)
Southwest China	98,193,000
Northwest China	35,358,000

In the distribution of population densities, the Northwest is not comparable with other major regions except Tibet and the Inner Mongolian Autonomous Region as the following indicates:

Major Regions	Average Density per Sq. Mi.
Northwest	28.6
North	623.0
Northeast	214.0
Central and South	400.0
Southwest	222.0
Tibet & Shangtu Area	3.0
IMAR	17.0
Whole country	160.0

N S 162 Of the 35.3 million people of the Northwest, 28.8 million are found in the provinces of Shensi and Kansu, only 6.5 million in Chinghai and Sinkiang. This contrast between the true Han-Chinese occupied eastern part and the multi-minority peopled western portion is sufficient to portray the unevenness of the population distribution. It becomes even more obvious when N S 131 161 this distribution is expressed in terms of the size of the land occupied. Shensi and Kansu, including Ninghsia, have an area of 313,801 square miles which gives an average density of ninety-one persons per square mile, while Chinghai and Sinkiang have an area of 1,010,000 square miles with a density of 6.5 N 131 161 per square mile. The density of the eastern portion without Ninghsia would be increased to 126 persons per square mile, for Ninghsia has at most 800,000 people in an area of about 91,500 square miles. However, the larger density of Shensi and Kansu without Ninghsia is still below the average of the country.

N 161 241 Broadly speaking, apart from the general uneven distribution between the eastern and western parts of the region, their distribution displays a special pattern. To the southeast of Nan-shan and Alashan mountain ranges and within the mid-drainage of the Yellow River and the Han-chung Basin, people are concentrated in the fertile valley plains where irrigation is possible, and also in the terrace dry lands of the Liu-pan hills where the annual rainfall is generally below fifteen but above ten inches which, though hardly adequate, is sufficient for growing millet, kaoliang, and even some spring wheat. Population N 161 133 is spread out more evenly in large expanses such as the Han-chung Basin, Wei-ho valley plain, and around Lanchou, a confluent basin where the Tatung, Huang-shui and T'ao-ho converge on the Yellow River, or in long stretches as in southeast Ninghsia between the Alashan Range and the Yellow River course.

161 Beyond the Alashan, Nan-shan, and Ta-chi-shih mountains in
133 most parts of Chinghai, western Kansu including most parts
of former Ninghsia covering the Alashan and Khara Gobi
deserts and all Sinkiang, where the annual rainfall is generally
below five inches except in the higher elevations, the small
population is intensely concentrated in a number of small
isolated oases scattered along the base of the snow-capped
high ranges. Numerous snow-fed mountain streams come down
the Nah-shan, the Kunlun, the Tien-shan and the Altai.
[312] Before they disappear in the nearby deserts, they provide a
reliable source of water for irrigation. Hence a string of
487 oases are scattered between deserts and mountains. The so-
312 called Kansu corridor along the Nan-shan, the Silk Road
361 along the Kunlun, the Tien-shan nan-lu (Southern Road)
161 and the Tien-shan pei-lu (Northern Road) along the south and
north foothills of the Tien-shan (Celestial Mountain) Range
are all developed along these oases which provide the only
available natural stations along all the trade routes through
Northwest China and Central Asia. These oases are the sole
centers of human settlement for agriculture, horticulture,
animal husbandry, and pastoralism. Since they are so intensively
487 cultivated and populated, in most cases they form administrative
361 hsien or county seats, i.e. from southeast to northwest along
634 the Kansu corridor, Ku-lang, Wu-wei, Yung-chang, Shan-
161 tan, Chang-yeh, Lin-tse, Kao-tai, Chiu-chuan, Yü-men,
An-hsi, Tun-huang, etc. Along the Silk Road at the foot of
the Kunlun Mountains east-westward are No-chiang, Chieh-mo,
Keriya (Yu-tien), Tse-leh, Lo-pu, Ho-tien, Mo-yü, Pi-shan,
Yeh-chang, Sha-che, Ko-ko, Yingihissar (Ying-chi-sha),
Shu-le, etc. Along the Tien-shan
nan-lu, east-westward are Qumol (Hami), Shan-shan, Turfan,
Ho-sho, Yen-chi, Korla, Lun-tai, Ku-che, Pai-chang, Wen-
su, Aksu, Ke-ping, Pa-chu, Ka-shih, Shu-fu, etc. Along the
Tien-shan pei-lu, east-westward are Barkul (Chenhsi), Chitai,
Urumchi, Chang-chi, Ching-hua, Sui-lai, Wu-su, and Ching-ho
to Sui-ting in the Ili valley. Thus the distribution of population
occurs in clusters or isolated pockets of densely peopled
areas, dotted along the foot of the high mountains, but separated
by desert wastes.

361 In the enclosed upland Tsaidam and Koko Nor Basins of
233 Chinghai province, a small number of nomads exist mainly in
the part which is oriented toward and exposed to the limited
311 moist wind, where the grassland is suitable for limited grazing.
The location varies from basin to basin. In the Tsaidam, the
pasture is found in the southeastern part, while in the northwestern
part lies the Koko Beile Desert. In the case of the Koko Nor Basin,
the climatic orientation is reversed. Similar conditions prevail

S
592 0.58 acres per capita as against 0.68 in China Proper. It is
241 difficult to obtain a picture of the land tenure system because of
423 the lack of data. But according to a field survey referred to by
Owen Lattimore covering sixty-five households in two villages
in the Khotan oasis, the smallest farm was 1.08 acres and the
S largest farm was eight acres. A further breakdown revealed that
[184] rich peasants in this group had average holdings of eleven acres,
middle peasant 5.7, and the poor peasants 2.8 acres. In the
area where this survey was conducted, it seems that the farms
of the poor were too small for the efficient use of draft animals
and there was the problem of efficiently employing, on a tiny
farm, the labor potential of the large Uighur family. (Pivot of
Asia, p. 169.)

S 4. Forestry

311 There is forest land in the rich Ili valley but it is questionable
313 whether much timber can be exploited without serious damage to
the soil. Since much of Sinkiang is desert and wasteland there
are few forest reserves; out of the total Sinkiang area only about
five per cent is forest land.

C. Kansu, Shensi, Ninghsia, and Chinghai

N 1. The setting

133 J. L. Buck refers to this part of the Northwest as the spring
134 wheat and winter wheat-millet area. In the spring wheat area
[243] (northern Kansu, Ninghsia, and Shensi) high hills, small mountains, and narrow irrigated valleys characterize the best agricultural land. But along the great wall in Shensi, Ninghsia and Kansu are many undulating sand dunes extending from ten to seventy miles both northward and southward. When the Mongols occupied this region, these dunes were covered with grass and shrubs, but where the Chinese settled here, they cultivated the slightly more fertile land in the depressions between the dunes; once the grass was destroyed the winds blew the sand so as to make farming impossible and other nearby good soil was covered with the blowing sand. Grass in such land can seldom be resodded, and it is thus that land once useful, at least for pasture, is now entirely destroyed.

N The winter wheat-millet area (southern Kansu, Ninghsia, and
133 Shensi) extends over a great part of a loess-covered plateau, a
134 high, dissected peneplain, carved largely from red or purple sholes
243 and conglomerates, covered with deposits, largely lacustrine, and blanketed by wind-blown dust, known as loess, which varies in thickness from about twenty to more than 150 meters. The fields in this region are very irregular and small, and most of the surface is so eroded that cultivation is difficult and much terracing is necessary.

N The climate is cold, dry, and windy in winter. The typical
132 precipitation is low, about fourteen inches, and exceedingly

241 The following chart indicates the area of the four separate pro-
311 vinces, the amount of cultivated land, the number of farm house-
131 holds, and the average number of acres per farm. (Cressey,
423 p. 105).

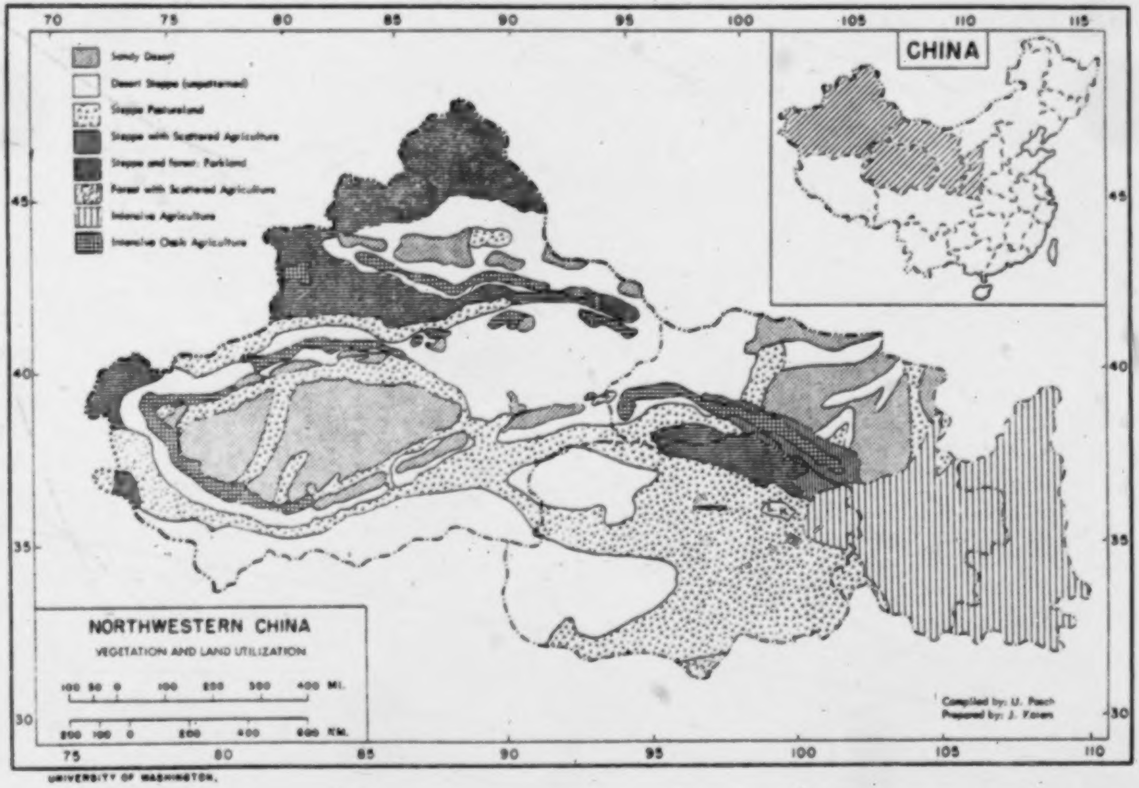
Province	Area in Acres	Cultivated Land	Farm Households	Acres per Farm
Kansu	96,741,133	4,310,000 acres	793,000	5.4
Ninghsia	57,653,372	304,000 acres	54,000	5.6
Shensi	46,432,319	7,514,000 acres	1,385,000	5.4
Chinghai	164,874,016	1,284,000 acres	237,000	5.4
Total	365,700,840	13,412,000	2,469,000	

Of the total area of these four provinces, roughly thirteen per cent is under cultivation (1946 figures). A survey of the National Agricultural Research Bureau findings of 1943 indicates that additional land that could be brought under cultivation is, except for Ninghsia, extremely limited. (China Handbook 1937-1943, p. 547.)

241 The extent of cultivation on the hills of this area depends upon
311 the elevation, steepness, and the dryness of the climate. High
elevations have a greater precipitation, more favorable for farm-
133 ing. The drier, steeper hills have sparse, wild vegetation growth
132 only used for sheep grazing. Although one is impressed with the degree to which such hilly land in this dry climate is cultivated, it is probable that it has extended beyond the most profitable use of the land. In fact, according to one agricultural economist, it might be more economical if more of this land were devoted to grazing; if better varieties of grasses and improved breeds of sheep were introduced, the income derived from pastoral utilization might be greater. (T. H. Shen, Agriculture Resources of China. p. 153.)

Terracing is prevalent and is practiced on eighteen per cent
241 of all cultivated land. Much of the hill land is also cultivated in
133 a modified form of contour farming. The slopes of the fields are
134 so steep and the fields so wide that although there is some attempt at contour farming, it is not well carried out and the erosion is very severe; in fact, erosion is so serious that production is meager and some of the land has been abandoned.

The principal crops grown are wheat, cotton, rice in the irri-
241 gated areas of Wu-wei and Ninghsia, millet, and Irish potatoes. Cotton production is particularly extensive in Kansu and Shensi. The following figures are from the China Handbook (1937-1943) and they show the acreage and production for 1937-1942.


NORTHWESTERN CHINA
VEGETATION AND LAND UTILIZATION
Sandy Desert
Desert Steppe (unpatterned)
Steppe Pastureland
Steppe with Scattered Agriculture
Steppe and forest: Parkland
Forest with Scattered Agriculture
Intensive Agriculture
Intensive Oasis Agriculture
CHINA
100 50 0 100 200 300 400 MI.
200 100 0 200 400 600 KM.
70 75 80 85 90 95 100 105 110 115
75 80 85 90 95 100 105 110
45 40 35 30
Compiled by: U. Pasch
Prepared by: J. Koren

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following page 665

496 is in the last stages of decay, and the carriages are usually overrun with soldiers, Honan being one of the military reservoirs of man power for the Northern armies. The plain 133 of the Lo Ho in early April, covered with vividly green winter wheat and dotted with pink and white fruit trees, all against the background of everlasting brown loess, forms a striking picture. The loess scenery between Cheng Chou and Kung Hsien is most remarkable, and the tourist who wishes to see a good example of this weird formation, with its perpendicular precipices and chasms, need not go further afield than this corner of N.E. Honan.

496 From Honan Fu a construction train, consisting of a string of open trucks packed with Chinese clinging like flies to every available spot, crawls slowly through the loess, which gradually gives way to reddish hills, past the little city of Miench'ih Hsien to the village of Kuanyint'ang, where the famous Lung Hai railway comes to an abrupt end, as though aghast at the appalling distances ahead. Immediately in front is a mountain range which will presumably have to be tunnelled to reach Shen Chou on the Yellow River. No more construction work has been undertaken at the time of writing, though surveys have been made up to Lanchou Fu. It is said that the plans allow for over 40 kilometers of tunnels before that place is reached. The concession is a Belgian one. The sight of the swarms of Chinese packed into the string of open trucks running backwards and forwards on this incomplete section testifies to the popularity of railway travel on this road and to the great number of travellers.

493 At Kuanyint'ang the traveller must hire carts or pack mules for the journey to Hsian. The latter are preferable, especially if it is likely to rain, as the mud in the loess cuttings on this much travelled road defies description. If the traveller has not brought his own ponies, a mule litter (*chiaowotzu* or *shantzu*) is a necessary accessory to a 493 train of pack mules. This is a rough litter made of sticks and matting in which the passenger reclines carried by two 516 mules, and is not likely to appeal to a foreigner as a pleasant method of travel. A Chinese is satisfied to be carried like a recumbent log in this contrivance for weeks on end, emerging at intervals for his meals; but the more active-

minded foreigner is apt to find it intensely wearisome. 493
A pony which can pace a little (the five mile an hour amble, 516
in Chinese, *tsou*) provides on the whole the least tiring
method of travel in the North Western provinces; chairs are
little used except in the Southern portions, and always entail
trouble in getting bearers. We used ponies and pack mules
throughout our journeys.

Leaving Kuanyint'ang there is a drop into a ravine and 487
then a stiff climb of a few hundred feet to reach the pass 491
over a range of mountains, the watershed between the Lo
and Yellow rivers. This ridge is really the end of one of 133
the principal ranges of the Ch'inling Shan, the one which
runs east and west right across Shensi immediately south
of the Wei River. From the pass the road descends through
undulating country to the township of Changmao Chen,
where one is once more in the loess. From here it crosses
a loess plateau, with typical valley rifts on either side, finally
descending for the last mile to the village of Tzuchung.
Changmao and Tzuchung, called 40 and 65 li from Kuanyint'ang
respectively, are both used as stages for halts, but
if the journey to Hsian is to be done in good time it is best
to try and reach Shen Chou, another 50 li further on, on
the first day's march. The road descends through deep loess
cuttings to reach the latter, a little city on the banks of the
Yellow River.

The traffic on this road is immense and an almost [484]
constant stream of carts and pack mules, laden mostly with
cotton and hides on their way from Shensi to the coast, is
met. In wet weather the mud is appalling; in dry weather
the dust is if anything worse. There may be a happy mean,
but the traveller who strikes it can consider himself lucky.
The first time we travelled this road was in the mud; the
second time, during the dry weather in early April, in the
dust. In such weather the road is entirely hidden in vast
clouds of dust in which the traffic is permanently shrouded.
Those who have had experience of loess dust, which is
so fine that it can be almost rubbed into the pores of the
skin, will know what this means. The horseman can sometimes
get away from the main road and its ankle-deep layer
of dust by following small paths through the fields; but the
passengers in carts and mule litters have to put up with it

487 and not infrequently arrive at T'ungkuan in a state of collapse.

491 From Shen Chou to Lingpao Hsien, a distance of 45 li, the road runs through deep cuttings in the loess near the right bank, but out of sight, of the Yellow River; and from Lingpao to Wenhsiang Hsien, called 60 li, it runs across a series of bluffs high up above the river; for the first 20 li of this latter stage horsemen can follow a footpath along the river itself, which here rolls its pea-soupy waters through a gorge in the loess hills; wild fowl of all kinds abound here in the spring and can be easily shot. Lingpao and Wenhsiang lie right on the river. Round the latter the loess is much mixed with sand. The barrier range on the traveller's left hand here begins to draw in towards the Yellow River to form the famous narrows at T'ungkuan. From Wenhsiang to T'ungkuan, called 60 li, the road continues through the loess not far from the river. Finally T'ungkuan itself is approached through a deep cutting in the loess hills with gates and walls appearing at intervals after the manner of the Nank'ou Pass in the Peking mountains, with which this famous stronghold may be compared.

487 712 The narrows of T'ungkuan are formed by the Northern barrier range of the Ch'inling Shan and the Yellow River, which here approach to within a few miles of one another, the intervening space being filled by a thick layer of loess hundreds of feet deep, intersected by impassable rifts. Here the Peking road through Shansi *via* T'aiyuan Fu meets the Honan road and continues as one to Hsian Fu, where it bifurcates again, one branch leading south-west to Chengtu and Tibet, and the other north-west to Lanchow and Turkestan. The fortress of T'ungkuan commands the meeting-point of these four highways, and is now and always has been one of the most important strategical points in the interior of China. It will one day be also a considerable railway centre as trunk lines are projected along all these roads. The number of roads leading east and west, north of the Yangtzu, is extraordinarily small, and railways usually seem to find that the ancient highways of traffic and commerce offer the easiest routes through mountainous country. T'ungkuan has from time immemorial served as the gateway from China to Central and Western Asia, and has played

487 The local magistrate then has to admit that there is certainly
a road to Lonan, but adds that it passes over a terrible
mountain. Further enquiries show that it is of course a
much used trail of two stages of 90 li each.

We left T'ungkuan at daybreak on April 9th, an immense
492 procession of ponies, mules, chairs, baggage coolies, soldiers,
and miscellaneous hangers-on, of which my share amounted
to three riding ponies and five pack mules. There are no
[491] cart roads in Shensi south of the Ch'inling Shan, and the
Chinese always travel where possible in chairs. Having
tried all methods of travel in North China I have come to
the conclusion that a pacing pony with an American saddle
and mules for the baggage are best and quickest, comparative
rapidity of movement being an important point in the
avoidance of undue fatigue; this method of travel is also
far cheaper than chairs and baggage coolies and entails a
minimum of friction over transport arrangements. But the
tracks of Southern Shensi are very hard on the animals,
and it is advisable to carry a good supply of shoes and to
have a man in the caravan who can put them on.

487 The trail runs due south for 40 li ascending gradually
over the loess foothills to the hamlet of Haoch'ayu lying at
184 the mouth of a gloomy gorge in the rocky barrier range of
mountains which bound the Wei River valley on the south.
133 This range, the backbone of China, starts from the highlands
of Northern Tibet and finally loses itself in the plains of
Honan, serving all the way as the watershed between the
Yangtzu and Yellow River basins, and marking the dividing
line between Central and North China; that is to say between
rice-eating peoples who cultivate alluvial valleys with water
buffaloes and employ coolies for transport, and wheat-
eating peoples who cultivate loess plains and uplands and
use ponies, mules, and camels for transport. We call these
mountains Ch'inling, which is really the Chinese name for
the passes across the watershed range.

133 Entering the narrow stony gorge we followed it for about
20 li till it ended in a steep zigzag climb leading to the pass,
487 which like most passes in China is not a saddle but just the
ordinary ridge of the range crossed at the most direct point.
Chinese trails always prefer where possible to go straight
from point to point across the intervening obstacle rather

than to make a detour along an easier line. The summit is about 6000 feet high. A little further along this range to the west is the famous Hua Shan, one of the sacred mountains of China. The Chinese call this pass Ch'inling, though as a matter of fact it is not the watershed. 133 487

Travel in China always seems to consist either in trekking across infinite plains or of following up and down river valleys and gorges to and from an endless succession of passes.

This pass is the boundary between the districts of T'ungkuan and Lonan, and a better boundary there could hardly be, for one can almost stand with a foot on either side of the range.

From the top of the pass the path drops steeply for a few hundred feet and then continues for 15 li down a picturesque well-timbered valley to the market village of Hsünchien Ssu, a pleasant little place lying at the junction of two clear mountain streams and surrounded by wooded slopes with pheasants calling in the maize fields. Though one is still in the Yellow River basin, i.e. on the headwaters of the Honan Lo, the bare stony mountains and loess plains of the North have been exchanged for the well-watered pine-clad valleys of Central China.

The next day's march, another long one, brought us to Lonan Hsien. The road continued down the wooded valley for three or four hours' march to the market village of Shihchia P'o where rice cultivation appeared (rice is grown [243] up to about 4000 feet in Shensi), and then turned up a side ravine and crossed a low pass in a range of bare hills giving access to the valley of the Lo Ho, which was followed up to Lonan Hsien. The latter is a small place lying well away from the main roads amongst flat open valleys of red clay backed by mountains, a sort of plateau supported between two series of ranges of the Ch'inling Shan. These shallow valleys contain the headwaters of the River Lo (sometimes referred to by the Chinese as the Honan Lo to distinguish it from the Shensi Lo, the chief river of the latter Province), which flows east past Honan Fu (the old Loyang) to join the Yellow River.

A glance at the map showed our next objective to be the 487 district city of Shang Chou, and as there did not appear to 579

487 be any main roads leading anywhere from Lonan no difficulties
were raised except over the prevalence of brigandage.
579 Brigands are of course almost universal in China nowadays,
but they are always supposed to be worst in districts
marching with a provincial border line, such as those we
were now traversing. But our party was too formidable a
one to have anything to fear from local brigands such as
these.

487 A long day's march brought us to Shang Chou. The
track follows up the flat valley of one of the headwaters of
133 the Lo Ho for 20 li, and then crossing a low rise, drops
over the edge of the red plateau of Lonan into a narrow
winding gorge hemmed in by bare mountains of red sandstone,
which is followed until it debouches on to the valley
of the Tan Chiang a little above Shang Chou.

634 Shang Chou is nowadays a decayed little place, though
formerly quite an important centre, a *Chou* in charge of
487 four surrounding *Hsien*. After the Revolution of 1911
the former *Fu*, *Chou*, *T'ing*, etc. (Prefectures, sub-Prefectures,
and so on) were all reduced to the rank of
Hsien, or district, of the 1st, 2nd, and 3rd class, the class
being determined largely, it seems, by the land-tax receipts,
and, as many districts have been entirely renamed, most of
the existing maps of China are in this respect out of date.
Shang Chou, now called Shang Hsien, is a 1st class district.
It lies in the valley of the Tan Chiang, an affluent of the
Han River, on one of the most important trade routes in
and out of Shensi, that from Hsian Fu to Lant'ien, across
the Ch'inling Shan by two low passes, and down the valley
of the Tan Chiang to the mart of Lungchuchai, whence
boats ply *via* Chingtzu Kuan in Honan to the Han River,
Laoho K'ou, and Hankow; though the importance of this
route has somewhat declined since the railway from Honan
Fu has reached to within three and a half days of T'ungkuan.

At Shang Chou we were in the basin of the Yangtzu, the insignificant rise on the edge of the plateau of Lonan being the Yangtzu Yellow River watershed.

871 We were here quartered in the local school, which, as we usually found to be the case, was easily the best and cleanest building in the place. The existence of a comparatively well-kept school house, with maps and educational

575 the more respectable inhabitants. At the time of writing
nearly all the soldiers and brigands in Shensi, as well as
635 many civil and military officials, and in certain districts a
high proportion of the entire adult male population, are
579 members, and the administration of the province is largely
in their hands. There may be some good in the Ko Lao Hui,
but the writer, who has seen their pernicious influence at
work throughout Szechuan, Shensi, and parts of Kansu, has
never heard of it. To the ordinary observer the society
appears to exist for the purpose of practising blackmail and
terrorism, and securing mutual protection in the commission
of every variety of crime. Amongst its members
are special bands expert in gambling, kidnapping, piracy,
highway robbery, and similar pursuits. Others join merely
in order to secure immunity from the depredations of
[627] more active members. Offences against the rules of the
society[1] are drastically dealt with by punishments such as
death, mutilation, gouging out of eyes, etc., carried into
effect by members specially told off for that purpose; while
should these avenging angels fall by some mischance into
the grips of the law, the society will see to it that they do
not come to any harm and are well supplied with wine and
opium while in prison. The Ko Lao Hui has many aliases,
Chiang Hu Hui, Hu Kuo Chun, etc., and they are brigands
one day, patriot rebels the next, regular soldiers the next,
and so on. One of the first reforms to be carried into effect
by a strong administration in Western China is to extirpate
them root and branch, as the Manchus were always
endeavouring to do.

487 The next stage in our journey southwards to the Han
valley was the district city of Shanyang, distant 140 li, two
133 days' march. The trail leaves the valley of the Tan Chiang
and strikes into the mountains to the south. For half a day
we marched up a winding gorge, and then crossing three
sandstone ridges one after the other, the highest about
4000 feet, descended to the market village of Heishan
Chieh, 70 li from Shang Chou, where we halted for the
night. The mountains in this neighbourhood are most
intricate, with streams flowing in all directions, but the
general feature seems to be a series of ridges trending from
N.W. to S.E. The scenery is very agreeable, red sandy

[1] [Ko Lao Hui secret society --ANALYST]

mountains, pine trees, and clear streams flowing through 487
narrow cultivated valleys abounding in pheasants.

The following day we crossed another low pass, the 133
boundary between Shang Chou and Shanyang districts, and then followed down a winding ravine for the rest of the way to Shanyang Hsien. The latter is a tiny place hidden away in a wilderness of red sandstone hills and mountains.

At Shanyang we struck a recognized road of sorts leading 487
south to a place called Manch'uan Kuan on the Hupei
border, whence boats can be taken down a stream called 491
the Chia Ho across a corner of N.W. Hupei to Paiho Hsien
on the Han River, and thence up stream again to Hsingan. 505
To get into a boat wherever possible is the aim of every Chinese traveller, which, though rarely attainable in North China, is very natural considering the state of the so-called roads and the hardships of long overland journeys, and my Chinese companions were unanimous in discovering that this was the only possible route to Hsingan. But the object of our journey being—to use the expression of one of my French-speaking colleagues from the Wai Chiao Pu—"de parcourir toute la province de Shensi aussi rapidement que possible," I had no intention of taking a boat journey across N.W. Hupei, nor to waste a week in being dragged up the Han from Paiho Hsien to Hsingan; and therefore announced Chenan Hsien to be the next stage in our journey, this place lying to the S.W. and appearing to offer an alternative route. This produced a flood of expostulations and protests in regard to the difficulties of that road, which subsequently
proved not unfounded. The district magistrate on being 487
referred to admitted that there was quite a good trail to
Chenan, and said that the difficulties of this route were 133
reported to lie between the latter place and Hsingan. However, adhering to our usual practice, we made Chenan, distant about 230 li, three days' march, our immediate objective.

The first stage was an easy one of about 60 li. The trail lay down the valley for three hours' march to a point where the latter ended abruptly in an impassable gorge, and then turned up a ravine to the west, which was followed to a low pass with a steep descent the other side to the hamlet of Niuerhch'uan, lying in a small valley in the usual red sandstone mountains.

487 712 All along this road across the eastern end of the Ch'inling ranges a large proportion of the hill tops are crowned with walled strongholds called *Chai* which serve as refuges for the inhabitants of the farms and villages in the valleys in times of trouble. These fortified hill tops are a characteristic feature of S.E. Shensi and N.E. Szechuan. The better ones contain houses all ready for receiving the refugees, while others are merely walled shells inside which the owners erect mat sheds or temporary huts. Nearly all are unapproachable except by most precipitous footpaths. Six years ago, in the comparatively peaceful days of Manchu rule, these *chaitzu* were generally in ruins and fallen into disuse; nowadays they have mostly been repaired at a cost of many thousands of taels and have been in pretty constant use during the troubles which have afflicted these parts ever since the revolution of 1911. It is a regrettable but indisputable fact that public security in the interior of China has steadily deteriorated and that the ravages of brigands have everywhere increased during recent years since the establishment of the Republic.

487 133 Leaving Niuerhch'uan on the next day, we followed down the valley, which contracts to a gorge and is rather difficult for loaded mules, for an hour's march. Here the gorge debouches on to the valley of a considerable stream, the Shêch'uan Ho (lower down called apparently the Chia Ho), flowing like most of the rivers of Shensi from N.W. to S.E. Our path turned up the valley of this stream and followed it in a westerly direction for the rest of the way to the large market village of Fenghuangtsui, 80 li from Niuerhch'uan. The valley is hemmed in by rocky jungle-clad mountains and is uncultivated till within 15 li of Fenghuangtsui, where a tributary of equal volume from the north joins the stream. From this point on there are rice 361 fields and a succession of hamlets. Fenghuangtsui is the largest village in the district and contains many more families than Chenan itself. Apart from these occasional townships there is marked absence of villages in these mountains, and one usually travels all day long without passing anything but scattered farmsteads and huts.

487 133 The next day's march was a long and tiring one called 90 li. The trail leaves the main valley of the Shêch'uan Ho

and enters a gorge which soon ends in a stiff climb up to a 487 pass, about 5000 feet high and two hours' scramble from 133 Fenghuangtsui. There is a similar steep descent for a thousand feet or so down the other side into a ravine where farmsteads and rice fields reappear, and then a weary three hours' march down a stony gorge which debouches on to the narrow valley of the Ch'ienyu Ho, a considerable stream for these mountains, which takes its rise in the watershed ranges north of Hsiaoyi T'ing and flows south past Chenan to join the Han near Hsünyang Hsien. The trail continues down this stream, which has to be crossed and recrossed though barely fordable, for another hour's march through precipitous limestone gorges, and then turns up a small tributary to the west for a few li to reach the city of Chenan, a dilapidated little place lying hidden away in the mountains just round the corner from the canyon of the Ch'ienyu Ho.

We had had nine days' continuous travel over the most appalling mountain tracks since leaving T'ungkuan, and as we were well housed in the Yamen of the Chief of Police, and were informed that the trail on to Hsingan was much worse, we decided to rest in Chenan for a day. The fourteen days between T'ungkuan and Hsingan by this route constituted one of the hardest journeys we made in all our wanderings through Shensi and Kansu owing to the roughness of the mountain trail. Travelling as we were with the assistance of the local officials we did not have to sample the inns, if there were any, *en route*; without such assistance it would of course have been very much harder and more fatiguing.

Chenan has practically no city wall left, which is unusual. 712 The explanation lies in the fact that the inhabitants own a particularly fine *chaitzu* on a neighbouring mountain top in which they prefer to take refuge, with their magistrate and his police, in times of trouble rather than defend their city. A large proportion of the population were there at the 574 time of our visit, for at that early period of our journey our party was so formidable in size that when we descended 651 on these small mountain towns like a swarm of locusts the people used often to fly at our approach as though from a band of brigands. Chinese officials travelling on what used to be, and often still is, called an Imperial Mission, such as

669 rumour that many high officials were privy to the raid and shared in the loot which was brought back to Honan. It was not until they reached the Mahomedan districts of Kansu near the Kokonor border that they suffered any serious loss, and that was mainly at the hands of the Mahomedan population of those parts, who are not accustomed to permit themselves to be looted and killed without showing fight, and from the hardships of the long forced marches through that wild region, rather than owing to the action of any Government troops. Eventually the survivors straggled back with their loot through Shensi to their homes in Honan and Anhui. The Chinese officials assert that White Wolf himself, who appears to have been an ex-military officer from the Yangtzu armies, was captured and executed.

The failure of the Shensi troops, mostly revolutionary levies of Ko Lao-Hui men and ex-brigands, of much the same type as the raiders, to deal with the White Wolf rebels was to be expected; but the failure of the Northern Army opposed to them in Honan in the winter of 1913–14 seems at first sight difficult to account for. The rebels were of course much more mobile than the Government troops, as they lived on the country by taking what they wanted and impressed men and animals everywhere to carry their transport. Then again their lives being at stake, they could be depended on to fight when cornered, whereas it is difficult to induce the Chinese soldier to close with his enemy in a fight of this kind in which he has no interest. Where not an ex-brigand, the Chinese soldier is often a good fellow in most respects, but he is apt to be too sensible to be willing to run the risk of getting killed without adequate reason. Hence battles between rebels and Government troops in China usually consist in the discharge of large quantities of ammunition at a safe distance from one another. It is the civilian inhabitant of the raided towns and villages who gets killed if he does not manage to escape in time to his *chaitzu* in the mountains.

487 We left Chenan on April 19th for Hsingan, distant, we were told, five hard days' march over the worst possible 133 roads. The first stage was 80 li to the village of Ch'ingt'ung Kuan. The trail lay all the way down the steep winding gorges of the Ch'ienyu River and was terribly rough and

tiring. A path fit for carrying coolies is ledged in the cliff 487
side, but mules and ponies have to pick their way over the
stones and boulders in the stream bed, constantly crossing 133
and recrossing the river, which is only just fordable, as it washes the base of the cliffs alternately on either side. The following day's march, called 60 li, to the village of Hsiaoho K'ou is precisely the same and most tiring. The district of Hsünyang is entered rather more than half-way near a picturesque temple overhanging the water. Hsiaoho K'ou lies at a point where the river, making the most intricate turns and twists on itself and almost surrounding a precipitous hill crowned by a fine *chaitzu*, is joined by a tributary from the east.

Ten li lower down, at a hamlet called Liangho Kuan, the Ch'ienyu Ho is joined by another stream from the west called the Hsün Ho, which issues from a similar gloomy gorge in the mountains. This latter river seems to contain the greater volume of water and is considered the main stream.

From Liangho Kuan small boats can descend the Hsün 491
Ho to its junction with the Han at Hsünyang Hsien, whence the latter can be reascended to Hsingan. It was of course suggested by everyone that we should here take to boats, but as it would have taken about a week to get to Hsingan by water as against three days by road across the mountains, we decided to continue overland. Since the trail continued, however, to descend the river gorges for another 40 li, we were able to avail ourselves of boats for that distance. The magistrate of Hsünyang had provided a regular flotilla for our huge party, and the boatmen were obviously relieved to find that we were only going to take them for a short distance instead of descending to the Han; for the supply of boats was of course a sort of official corvée for which they got little or no remuneration. The best boat, a brand new one, had been laboriously dragged up the rapids of the Hsün Ho and hidden away round a bend to prevent its being impressed; but the magistrate's underlings soon got wind of it and it was unearthed together with its morose and disappointed owner, and placed at our disposal. As our mules and ponies were all tired and footsore from the rough trails they had been travelling on, I tried to ship them

491 for a rest; but having embarked them with difficulty in the largest boat, the boatmen pronounced it too dangerous a proposition in the rapids, and they had to continue their overland scramble. We had a pleasant journey downstream, passing through deep gorges and shooting a succession of small rapids, but as we ran aground periodically it took about three hours to do the 40 li to the village of Chaochia Wan, where the gorges open out into a pleasant little valley with cultivated slopes dotted with wood oil trees.

487 At Chaochia Wan the Hsingan trail leaves the gorge of the Hsün Ho to cut across the mountains to the S.W. for 133 two days' march. The first stage to the village of Map'ing Ho is only 50 li, but it is a hard day's march. It is only when one starts to climb out of these Han valley gorges that one realises their depth. For three hours after leaving Chaochia Wan we scrambled up a mountain side, most of the way too steep to ride, in a downpour of rain. On reaching the pass (about 4200 feet) the weather cleared somewhat, allowing fleeting views through the clouds over a maze of wild reddish mountains patched with trees and jungle vividly green in their spring foliage. From the pass there was a steep drop of a few li, like the ascent by slippery clay paths and flights of irregular stone steps, then an easy descent along a ridge, and finally a precipitous drop straight down the mountain side to the hamlet of Map'ing Ho lying in a ravine running S.E.

From here there was only one stage left, called 90 li, to Hsingan. The magistrate of the latter city, who met us here, suggested an early start, as the 90 li were, he said, "very big and over several mountains." Fortunately we took his advice, for what with the passes, the badness of the road, and the rain, we were nearly twelve hours *en route*.

Leaving the valley of Map'ing Ho the trail enters a defile to the S.W. which leads up to a pass (3300 feet), the boundary between Hsünyang and Hsingan districts, and then drops down into a stony gorge which is followed to the hamlet of Liuli Kou. From this place there are still 60 li left to Hsingan, and the weary traveller feels entitled to hope for a run down the valley for the rest of the way. But it is still the same story of an endless succession of ridges trending from N.W. to S.E. across a road running S.W. and the trail only follows down this gorge for a few li before it 487 turns up the mountain to the S.W. to cross another ridge; and descending into a similar gorge the other side, it soon 133 strikes again S.W. up another mountain slope. This, the last range to be crossed, is a stiff climb of a thousand feet by a rough zigzag track. From the summit (about 2600 feet) there is a fine view over the Han valley. Some 1800 feet below and 25 li away to the S.W. lies the city of Hsingan, with the Han River emerging from its mountain gorges, flowing past the foreground of the picture through a small plain, and disappearing in the mountains to the left; across the river rise tier on tier of hills and mountains towards the Szechuan frontier; on the right hand across a range of red hills a glimpse is caught of the valley plain of the Yo River stretching away towards Hanyin T'ing; and in the immediate foreground are low flat-topped hills of red clay, covered with wheat, peas, and lucerne, across which the path descends, climbing in and out of two deep narrow nullahs, before finally debouching at the ferry on the banks of the Han opposite Hsingan Fu.

The route followed from T'ungkuan to Hsingan, a distance of 960 li, gives one a good general idea of the nature of the ranges of mountains known to foreigners as the Ch'in-ling Shan at their eastern and lower end. All the way one 133 is crossing ridge after ridge trending south-east composed of red sandstone, shale and limestone, the first named predominating on the lower slopes and in the valleys. These red clays and sandstones bound the loess formations on the south all the way from Honan to the Kokonor. The south-easterly trend of these ridges seems to start from the culminating point of the range, the T'aipai Shan, whence one series of ranges runs east along the southern edge of the Wei valley plains, and another strikes south-east right across the Han basin and causes the succession of gorges through which the Han River flows from below Yang Hsien to the Hupei border; between these two series of ranges lies the red plateau of Lonan and the headwaters of the Honan Lo. West of T'aipai Shan there is a similar split, one series of ranges running west into Kansu as the Yangtzu Yellow River divide, and another running south-west as the watershed between the Han and Chialing rivers. From T'aipai

PLATE V

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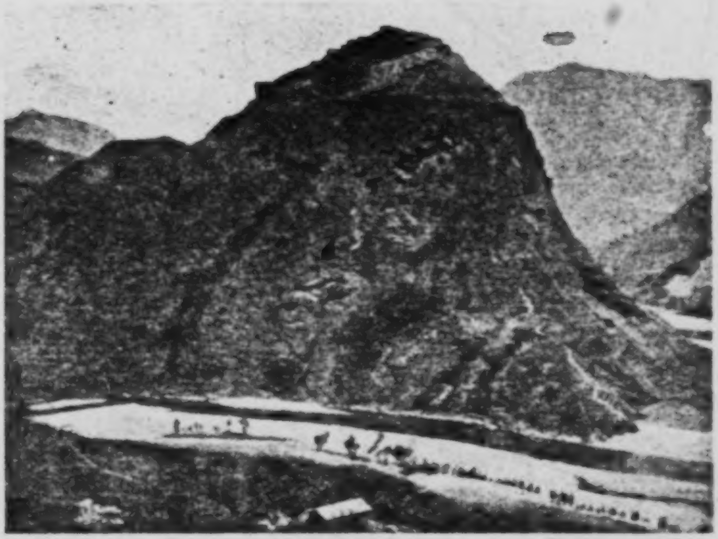
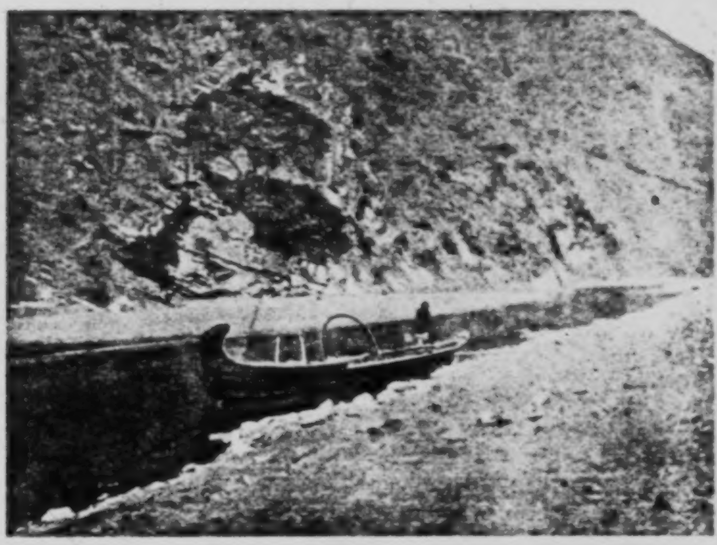


CHAITZU (HILL FORT) ON THE CH'IENYU RIVER

501



CANOE BOAT ON THE CH'IENYU RIVER

[Facing p. 28]

● 133 Shan itself streams flow down in all directions. The Chinese apply the name Ch'inling strictly speaking only to the passes in the Yangtzu Yellow River watershed range. The mass of mountains which fill up the whole of Southern Shensi from south of the Wei River to the Szechuan border, and through which the Han flows in a deep and narrow trough, are universally known locally as the Nan Shan.

PLATE VI

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GLEN ON THE ROAD BETWEEN HANYIN AND SHIHCH'UAN

GORGES OF HAN RIVER ABOVE SHIHCH'UAN

[FACING p. 29]

438 vegetable wax, cotton, hemp, hides, bristles, edible wood
fungus, tobacco, indigo, paper, cane sugar, straw braid, etc.,
241 of which the most important is the wood oil[1], crushed out of
the seeds of an apple-like fruit ripe in the autumn. Coal,
135 iron, copper, gold, silver, antimony, and asbestos, and
perhaps other minerals, exist in the neighbourhood. As a result the basin of the upper Han is one of the most prosperous regions in the whole of China and the population one of the wealthiest. Rice is usually cheaper even than in Szechuan. But in spite of its prosperity the region is isolated and backward as regards foreign improvements, and will probably undergo a very rapid development when tapped by a railway. It is one of the anomalies of modern China that this rich well-populated region and also the productive wheat and cotton-growing prairies of the Wei River valley should still be without railway communication, though neither are really difficult to get at.

186 The population of Hsingan is somewhat rough, not over
friendly to foreigners, and strongly tainted with secret
563 society influence, and compares unfavourably with that of
Hanchung and the towns further up the valley, which have been populated by the more kindly Szechuanese. There is a considerable Mahomedan community of immigrants from Kansu, who as elsewhere keep very much to themselves.

487 The Han River is of course the main artery of com-
munication. To Hankow downstream takes one to three
133 weeks according to the state of the water, and the return
journey upstream one to two months. Steam navigation on the upper Han seems to be out of the question owing to the shallows, shifting channels, and rapids. The worst rapids, some of which are very dangerous, lie between Yang Hsien (at the lower end of the Hanchung plain) and Hsingan.

136 There is good pheasant, partridge, and wild-fowl shooting to be had round Hsingan, and immediately to the south lies a very wild and sparsely-inhabited mountain region on the borders of Shensi, Hupei, and Szechuan, which is said to harbour all kinds of big game, such as deer, goat, pig, bear, leopard, and even the tiger.

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[1] Wood oil is nowadays one of the most important articles of the China export trade; the trees flourish on bare stony mountain sides incapable of other cultivation, and are worth studying from the point of view of afforestation generally.

487 countries. Yet a series of macadamized trunk roads would be an inestimable boon politically and economically to the country and the people and could be constructed at a comparatively small cost; some of the large sums spent annually for the upkeep of unnecessary military forces in the various provinces might with great advantage be diverted to this end.

133 [491] [241] Leaving Hsingan the Han River is crossed by a ferry above the city and the trail then runs westwards up the valley plain of the Yo River, which is navigable for small boats from Hanyin down. Its valley forms a rich little alluvial plain growing rice and wheat and supporting many farms and villages, and offering an admirable route for a railway westwards, which can thus avoid the gorges of the Han in this neighbourhood. To the south a range of mountains rises steeply to a height of a few thousand feet, separating this little plain from the Han River, while to the north the valley slopes up to low hills of red clay backed by mountains. Seventy li from Hsingan the township of Hengk'ou is reached, the end of the first stage, situated at the junction of the Yo River with the Heng River from the north. It has the honour of being the native place of the present Military Governor of the Province, General Ch'en Shu-fan, the old rule, which has many advantages, that an official is debarred from serving in his native province, no longer holding good.

487 From Hengk'ou to Hanyin is called 110 li, but the road is good and the li very short (at least four to the mile), so that with ponies and pack mules the distance can easily be done in a day. The Chinese li is commonly considered to be the equivalent of a third of a mile, which, however, is only the case in out of the way parts of Kansu. Elsewhere north of the Ch'inling Shan ten li to three miles may be taken as a fairly accurate average. In the upper Han valley, as in Szechuan, the li averages about four to a mile, or even more in the mountains; the difference north and south of the Ch'inling Shan being probably due to the use of animal and coolie transport in those regions respectively.

Ten li beyond Hengk'ou the hills close in on the river to form a *kuan*, or barrier, and the path crosses a low spur to descend again into the valley, here less than a mile in width, up which it continues past several large villages, crossing and recrossing the stream by fords, for the rest of the way to Hanyin.

Hanyin T'ing, now called Hanyin Hsien, a third class district, is a prosperous little place lying at the head of the fertile Yo River valley, and, like most of the Han basin towns, is more like a Szechuan than a Shensi city. 634

From Hanyin to Shihch'uan Hsien is a day's march, called 90 li. The path continues westwards up the narrowing valley leaving the main stream which comes down from the north on the right hand. After about 15 li the valley ends in low hills skilfully terraced into rice-fields, up which the trail runs to reach a low divide, some 600 feet above and two hours' march from Hanyin. This is the first obstacle to a Hsingan-Hanchung railway, but from here on till it reaches the eastern end of the Hanchung plain near Yang Hsien there will be many difficulties to surmount. From the pass the track, entering the district of Shihch'uan, descends through a defile and then through terraced rice fields amongst the red clay hills to the valley of the Ch'ih Ho, a stream flowing down from the north, and reaches the township of Ch'ihho P'u, 45 li from Hanyin and at about the same elevation. The same mountain range, which is further on pierced by the Ch'ih Ho in a gorge, continues on the left hand and the same red clay hills on the right. The path continues down the valley for an hour's march, and then leaves it to climb over a spur to the north, and so into the valley of the Han, here no wider than the river bed, and flowing from north to south. For the rest of the way to Shihch'uan the trail runs up the Han along the mountain side on the left bank. 487 133 [243]

Shihch'uan, a third class Hsien, lies right on the river. It is an important strategic point in these parts as the trail from Hsian across the Ch'inling Shan *via* Ningshan T'ing here debouches on to the Han and the Hsingan-Hanchung road. [361]

The next stage to Ch'a Chen, called 80 li, is a rather dangerous one for pack animals. Crossing the Han by a ferry the trail runs up the gorges of the Han, a smaller edition of those of the upper Yangtzu, being ledged in the cliff side some distance above the water. In places it is narrow and there are some corners which are difficult to negotiate; but we met with no accidents, partly because the assistance so constantly rendered to us by the local officials included repairs to bad and dangerous portions of the trail. [491]

487 133 Ch'a Chen is a village on the river, already in the district of Hsihsiang, which is an extended one. Here the track, leaving the river, ascends a glen to the S.W., and after reaching a height of about a thousand feet above the Han runs westwards along a mountain slope, with a steep wooded range trending east and west on the left hand, and a series of spurs with intervening glens falling away to the Han on the right. Thirty-five li from Ch'a Chen the path descends some 500 feet to a village lying in the valley of a stream which issues from a gorge in the mountains to the south and flows north towards the Han, and then continuing westwards over another of the lateral ridges descends into a maze of wooded hills and gullies, leaving the mountains to the south out of sight. After two to three hours' march through these hills the trail ascends again to emerge on the top of bare downs, whence there is a fine view over Hsihsiang and the valley plain of the Muma Ho some 500 feet below. After descending into this plain, the Hsuan Ho, issuing from a gorge in the mountains to the south, is forded, and ten li further on, after rounding a low spur separating this stream from the Muma Ho and fording the latter, the district city of Hsihsiang is reached. This is a long day's march of 100 li.

361 Hsihsiang, the capital of a second class district, lies in another of the fertile valley plains of the Han basin, that of the Muma River. This valley runs from S.W. to N.E. and is here some miles broad. To the south a rocky range of mountains rises some thousands of feet above the plain towards the Szechuan border, and to the north are bare hills separating the valley from the Han. The district is one of the wealthiest in Southern Shensi, though these compare unfavourably, in spite of their apparently greater prosperity, as regards land tax receipts with many of the Wei valley districts, such as Weinan, Lint'ung, P'uch'eng, etc., owing, it is said, to much of the newly reclaimed land in the mountains not being on the old registers. [248 438] A good deal of silk is produced. This Han valley silk is inferior to the Szechuan product, but is good enough to send to Kansu in exchange for the skins, furs, musk, deer-horns, and medicines of that province. Hsihsiang is also noted as the home of many famous literati and officials, and we were

palatially lodged in the house of a former provincial 361
governor.

There are at least three roads from Hsihsiang to Hanchung,
via Yang Hsien, Ch'engku Hsien, and Kulupa 487
respectively. We followed the latter, a three days' march.
The path runs up the Muma Ho for some 15 li, where the 133
hills close in on the river and bring the valley to an end,
and then runs through the hills and along the river to the
village of Matsung T'an, 50 li from Hsihsiang and, owing
to a small rapid, the head of navigation for small boats on
the Muma Ho, up to this point a placid stream. A little
further on the trail leaves the main stream, which here flows
down from the south, and turns up a small sandy tributary
to the south-west, then turns west through low wooded hills
intersected by rice fields, and then runs north-west up a
small valley to reach the village of Shaho K'an, 25 li from
Matsung T'an. This village lies, as its name implies, in a
pleasant region of low sandy hills covered with small woods
and intersected by rice fields much resembling Szechuan.
For some reason or other it is largely a Mahomedan community [563]
with two mosques. In the woods one will often see 244
heaps of old timber, carefully stacked, for the growth of a 438
vegetable fungus called *mu erh* (wood ears), which is a much
esteemed delicacy and forms quite an important article of 262
commerce in the Han valley.

The next stage is from Shaho K'an to Kulupa, a distance 487
of 70 li. The path runs up the narrow valley of the stream,
occasionally cutting across the low wooded hills, for 30 li 133
to the village of Sunchia P'ing, where the hills open out
and encircle a little rice plain. The district of Ch'engku is
here entered. The country is a maze of little wooded hills
intersected by gullies growing rice, and its chief feature is
the sand. The hills are of soft disintegrating sandstone, the
stream is a trickle of water in a sandy bed, and the path a
firm sand embankment between stream and rice fields. It
is evidently an old sandstone plateau cut up into hills and
gullies by the action of water, like so much of Szechuan.
North of the Ch'inling Shan such a country would be a
desert; here with the more abundant rainfall and its resultant
vegetation, it is a garden. From Sunchia P'ing the trail
continues westwards for a time up the stream, and then, as

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487 the latter gradually comes to an end, winds through the 133 same low hills in a northerly direction until, crossing a low divide, it emerges into more open country to reach Kulupa.

The latter is a walled stronghold of the Catholics on 797 the top of a hill and is the centre of Catholic missionary work in Southern Shensi, though the Bishop resides at Hanchung. The Italian Fathers who have been established in this corner of Shensi for a great many years, have attained considerable power and influence in the neighbourhood. They work on different lines to the Protestant Missions, but from their point of view with greater success. Their plan is to collect orphans or other children who are not wanted by their parents, to educate them and teach them all kinds of useful industries, and to bring them up as Catholics. This is the work that is carried on at Kulupa, where there are usually some hundreds of children being brought up as members of the Catholic Church, mostly girls, as these are easier to secure. These old-established Catholic Missions usually own a good deal of land acquired in a variety of ways, and are practically self-supporting. At [212] Kulupa an entire hill top is covered by substantial buildings and the whole surrounded by a good wall. When trouble comes, the gates are shut, the community fetches out its arms, and the brigands, or whoever they may be, pass on to easier prey.

To many Catholics the Protestant missionaries, who are usually married and live as far as possible a comfortable European family life, seem entirely out of touch with the Chinese amongst whom they are working. To many Protestants the life led by the children in such an establishment as Kulupa seems somewhat dreary, inhuman, and lacking in the comforts and interests of home life. The ideas of Catholics and Protestants in regard to Christianity and the converting of the Chinese are certainly very divergent and consequently puzzling to the latter, but they both do an enormous amount of good in different ways. The priest appears perhaps to sacrifice his life more completely to the Chinese, as he usually comes out from Europe never to return, and often lives for the rest of his days practically as a Chinese amongst the Chinese. But no missionaries of any persuasion have done more good for the Chinese people than some of the veterans of the China Inland Mission, who 797 have passed the best part of their lives in isolated stations in Shensi and Kansu, such as Hsingan, Hanchung, Fenghsiang, Lanchou, Liangchou, Hsining, and Ninghsia, where months and years pass by without their ever seeing another foreigner. Their success in securing converts may not have been striking, but it is permissible to speculate on whether those whom they have secured are not more genuine Christians than the native Catholics. Often in spite of the basest ingratitude on the part of the Chinese, whose wounds and illnesses they tend one day, only to be passed by in the street with a scowl on the next, these noble men have laboured on year after year doing good and leavening, in however small a degree, the leaden mass of Chinese materialism. The results of their work may not always be apparent now, but they have sown a seed which cannot fail in time to produce a harvest of some kind, a harvest of which other Missions not infrequently reap the benefit.

We spent the night at Kulupa, where we were most hospitably received and entertained with a banquet.

The distance to Hanchung is called 75 li. After de- 133 scending for about an hour's march through gullies in the 487 hills the track debouches on to the famous plain of Hanchung, [241] a highly fertile, heavily cultivated, and densely populated [361] region, stretching for a certain distance along both banks of the Han, and entirely surrounded by mountains. Another two hours' march across this plain, past the boundary between Ch'engku and Hanchung (Nanch'eng) districts, brings one to the Han River here a shallow stream flowing in a broad sandy bed, a hundred yards wide and a few feet deep. The path runs along the banks of the Han for a short distance, and then, crossing by a ferry, continues for [491] ten li over the plain to reach the busy township of Shihpali P'u. This village, which, as its name implies, is 18 li from Hanchung, is developing into a large town, and is evidently [438] the centre of the through trade from Szechuan, Kansu, and Northern Shensi, which, as is usually the case in China, is driven to avoid the capital by the various tolls and dues. [651] From here the road runs west for the rest of the way to Hanchung, passing through a rich suburb to reach the East Gate of the city.

CHAPTER IV

FROM HANCHUNG IN THE HAN VALLEY ACROSS THE CENTRAL CH'INLING SHAN TO FENGHSIANG IN THE WEI BASIN

Routes across the Ch'inling Shan—Ch'engku—Yanghsien—Across the parallel ridges of the Ch'inling Shan—Big game—The Hsinglung Ling—Fop'ing—Pheasant shooting—More passes—Chouchih—Across the Wei valley plains to Meihsien and Fenghsiang—Wheat, indigo, and cotton.

133 487 FROM Hanchung it was our intention to re-cross the Ch'inling Shan back into the Wei valley. The Ch'inling Shan, or Nan Shan, which consist of a series of precipitous parallel ranges trending across the path of anyone travelling between south and north, have always proved an extraordinarily effective barrier to communication between the Han and Wei basins. It was this barrier which prevented the T'aip'ing Rebellion spreading north from the Han valley into Central Shensi, and the Mahomedan Rebellion spreading south from the Wei valley into Southern Shensi; and in recent years it has kept the upper Han basin comparatively peaceful while rebellion and brigandage raged in the Wei valley and Northern Shensi. The Chinese have always rested content with two main routes across this barrier, one at each end; the Hsian-Lungchuchai road in the east, and the Fenghsiang-Liupa-Hanchung road in the extreme west. There is one other route which is considered by Chinese travellers to be just passable, that south from Hsian *via* Ningshan T'ing. The remaining three routes, that in the east *via* Chenan, that in the centre *via* Fop'ing, and that, further west, south from Mei Hsien, the two latter passing over the shoulders of the T'aipai Shan, one on each side, are considered by the Chinese impracticable for ordinary travellers. This is because they are too steep for chairs, and are so rough that even with mules and ponies it is necessary to do the greater portion of the journey on foot. We returned to the Wei valley by the Fop'ing trail, which debouches on to the plain at Chouchih Hsien, whence we turned westwards to Fenghsiang Fu. From Hanchung to Fenghsiang by this route is a distance of about 840 li.

[p. 40]

For the first two days from Hanchung the road runs down the valley plain past the district city of Ch'engku Hsien to Yang Hsien, two easy stages of 75 and 60 li respectively. These are two large and flourishing cities, Ch'engku especially rivalling even Hanchung in the wealth and prosperity of its inhabitants. Below Yang Hsien the converging mountains bring this fertile plain to an end and the Han River enters a series of gloomy gorges interrupted by rapids from which it emerges at Hsingan. The latter city is supposed to be about 800 feet only above sea level, whereas Hanchung is credited on some of the best modern maps of China with a height of 2000 feet, thus allowing of a fall of some 1200 feet in the Han between Yang Hsien and Hsingan. As the fall on this portion of the river can hardly be more than 500 feet, Hanchung is probably not more than some 1300 feet above sea level.

The difficulties of this route begin on leaving Yang Hsien. The trail here turns north and reaches the base of the mountains after about 8 li. After following a small valley for a short distance, it leaves the stream and ascends over cultivated downs to reach the edge of a spur between two ravines. There is a steep scramble up this ridge for two hours or more by a very rough rocky track to the top of the first range bounding the valley. The view from this ridge looking north is over a series of steep sparsely timbered ranges, rising one behind the other and blocking the way to Fop'ing. From the pass (4400 feet) there is a steep drop into a winding gorge which debouches after an hour's march into the ravine of a stream flowing S.E.; a short distance up this ravine lies an inn, called Ta Tientzu, 65 li from Yang Hsien, which makes a suitable halting-place for the first stage.

From Ta Tientzu the trail continues up the ravine to the north, past the hamlet of Hohsiatzu, for 35 li to the foot of another range running east and west. There is a stiff climb of about a thousand feet to the pass (5500 feet), followed by a precipitous drop of as much down the other side into a ravine which leads straight down to the unwalled township of Huayang Chen, lying in a basin of sandstone at the junction of several ravines which provide water and space for rice fields, the last seen until the descent into the Wei valley five days further north. The surrounding mountains are

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much broken, prettily wooded, and full of pheasants. To the north a high range runs east and west across the direction of Fop'ing, while to the south-east there is a large gap in the mountains following the flow of the stream. This stage is also about 65 li.

The trail now continues north up a boulder-strewn valley which soon contracts to a gorge, and then turns up a side glen which leads after a scramble to the pass (6000 feet), two to three hours' march from Huayang. This ridge is the boundary between the districts of Yang Hsien and Fop'ing Hsien and the magistrate of the latter had left his isolated post in the wilds of the Ch'inling Shan to meet us here. There is a fine view to the north over two high rocky ranges running east and west, the further one rising to a height of over 10,000 feet. From the pass the track drops steeply into the gorge of a stream flowing west, where there are some huts called Hot'ao Pa. Crossing the stream the path strikes almost immediately into another glen, which leads up through dense thickets of the dwarf-bamboo to the top of the nearest of the two ranges seen from the last pass. From the summit there are fine views all around over the mountains densely wooded with pine, birch, and other trees; to the north the same high range still blocks the road to Fop'ing. From this pass (7000 feet) there is a precipitous drop of a few hundred feet into the gorge of another stream flowing S.W., up which the trail turns northwards for a few li to reach some huts and a mule inn called Ta P'ing, with a little cultivation, mostly potatoes. We halted here for the night, 60 li from Huayang. This is a tiring march, practically one long scramble up and down the mountains all the way, by very bad tracks much too rough to ride over. The second pass can be avoided by taking an alternative route down one stream and up the other, which is said, however, to be impassable for mules.

Ta P'ing is nearly 7000 feet high, Huayang Chen about 4000, Ta Tientzu about 3000, and Yang Hsien about 1300. The trail thus ascends by a series of steps from valley to valley across the intervening ranges from the Han River to the heart of the Ch'inling Shan.

On the following day's march the trail continues up the stream to the N.E. through forests of pine and birch

for about 15 li to reach the pass in the big range. 487
The ascent is comparatively easy except for the last few 133
hundred feet, the valley being flat and open and apparently of glacier origin in contrast to the deep narrow gorges usual in the Ch'inling Shan. A little snow and ice were still lying in the stream bed in the middle of May. From the summit of the pass (9000 feet) there is a fine view to the north towards T'aipai Shan (12,000 feet), which appears as a rocky ridge sprinkled with snow, with a lower range in the immediate foreground over which the path leads to Fop'ing. All around are forest-clad ranges, uninhabited, and abounding [136]
in big game, deer, bear, pig, leopard, goral, and takin; but owing to the nature of the country their pursuit would involve great difficulties and hardships. This is near the heart of the Ch'inling Shan, a wild unexplored region, whence the ranges and streams ramify east and south-east on one side, and west and south-west on the other. The pass is called the Hsinglung Ling, and is crowned with an old ruined temple and gateway. There are additional signs that this trail, now unused except by a few isolated coolies carrying salt into the Han valley, smugglers, and others with good reasons for avoiding the main road, was once a much more important route. It is of course the most direct road from Hsian to Hanchung.

From the pass there is an easy descent through another flat open valley, where we saw some silver pheasants (or [136]
perhaps they should be referred to as blood pheasants, a species of *Ithagenes*), into the valley of a stream flowing west, where there is some cultivation, as usual mostly potatoes, and some huts, called Huangts'ao P'ing; these valleys are less thickly wooded than those on the southern side of the pass. Here the trail leaves the stream at once and strikes up the opposite slope to the north to reach another pass after an hour's easy climb. This range is the last to be crossed before reaching Fop'ing and is a few hundred feet lower than the Hsinglung Ling. From the pass there is a steep descent by a very rough track through a narrow gorge until one debouches after about 25 li into the broad cultivated valley of the Fop'ing River, up which the road runs eastwards through corn fields swarming with pheasants for ten li to Fop'ing T'ing.

PLATE X

VIEW FROM THE HSINGLUNG LING ON THE FOP'ING TRAIL

VIEW FROM THE HSINGLUNG LING ON THE FOP'ING TRAIL

[Facing p. 45]

of the North West and must consume a great deal of grain. 136
Strangely enough the Chinese peasants, often poor to the
verge of starvation, seldom touch them,[1] partly because of 262
the cost of powder and shot, and partly perhaps because of 136
the curious prejudice the Chinese cultivator has to eating
anything wild, for fear lest it should make him "wild in the 825
heart." The ordinary Chinese appear much to prefer a
skinny old chicken to a nice plump pheasant because the
former is not wild. While we were routing out pheasants
on these hills we put up four deer, apparently a large kind
of roe, which showed very little alarm and kept on reappearing
at intervals for the rest of the afternoon.

The T'ing, usually translated "sub-prefecture" and now 634
abolished, appears formerly to have been always the centre 563
of a sort of military district located in mountainous country
for the purpose of holding aboriginal tribesmen of some kind in check. Thus one will find many T'ing on the western confines of Yunnan, Szechuan, and Kansu facing the Tibetans; in the Miaotzu country of Kueichou and adjacent provinces; on the borders of Lololand in Szechuan; on the Burma-Yunnan frontier; and in Northern Shensi on the Mongolian border; but not in provinces like Anhui, Kiangsu, Shantung, etc., which have never contained a non-Chinese population. There are quite a number of T'ing in the Nan Shan of Shensi. But every vestige of an aboriginal non-Chinese population seems to have disappeared, if it ever existed. I have a vague recollection that some European scholar has evolved a theory that the non-Chinese tribes now living in Southern China originated in the mountains of Southern Shensi. Incidentally it may be noted that the former T'ing are usually marked in foreign maps of China as more important places than the Hsien. But with the exception of a few larger places such as Tachienlu and T'engyueh, nine out of ten of the T'ing are miserable little walled villages in the mountains, nowadays ranking as the poorest of third class Hsien.

Leaving Fop'ing the track climbs up the range im- 487
mediately to the north by zigzags to reach the pass about
a thousand feet above the valley, whence there is a fine 133
view over a wilderness of mountains all around. To the N. and N.W. lies T'aipai Shan, a bare rocky ridge still carrying a good deal of snow in May. This pass (about 7000 feet) is

[1] [pheasants - ANALYST]

487 the watershed between the Yangtzu and Yellow River basins, the streams to the north all flowing down into a
133 river called the Hei Ho, which rises in Fop'ing district and flows through the mountains to join the Wei near Chouchih Hsien. The trail to the latter place, however, does not follow down the gorges of this stream, but passes directly N.E. over a series of spurs running down from T'aipai Shan, and is little if at all less arduous than the portion between Yang Hsien and Fop'ing.

From the pass the path drops steeply through a pine wood into a densely wooded gorge running east. After an hour's march down this ravine the stream is joined by one of greater volume flowing down from the snows of T'aipai Shan. The scenery in this neighbourhood is exceedingly beautiful, the torrent descending in a succession of cascades through a gorge hemmed in by densely wooded heights. Continuing down this winding ravine for another hour's march, the village of Houchentzu is reached, where the valley opens out and there is some cultivation. Here the path leaves the stream, which flows off towards the east to join the Hei Ho, and strikes up a gully which leads after a steep ascent to a pass over a ridge some 1500 feet above Houchentzu, whence it drops precipitously into the cultivated valley of another stream flowing down from T'aipai, and reaches the village of Taima Ho, at about the same elevation as Houchentzu (4500 feet) and 60 li from Fop'ing. This was another hard march, scrambling up and down mountains all day; but the scenery was so fine and the air so bracing that no one seemed too tired, though to be compelled to walk the best part of 60 li in the mountains is not unnaturally considered a terrible hardship by the Chinese upper classes; although these latter appear so utterly unused and averse to all forms of bodily exercise there is yet a curious reserve of strength and of capacity for suffering hardship about them which was frequently noticeable on
485 our long journeys. Our party was now much reduced in size, but it severely taxed the accommodation of these mountain inns and hamlets. Local supplies would of course have been quite inadequate, but large quantities of rice or flour and a few rough tents were always arranged for at our halts by the local officials.

487
133

At Taima Ho the track again leaves the stream, which flows east into a deep gorge towards the Hei Ho, and turns northwards up the mountain side to gain a pass over a ridge some 1500 feet above the valley. The ascent is easy, this spur being covered with a sort of clayey loess cultivated in terraces; the appearance of loess so far in the Ch'inling ranges is unusual. From the pass the track drops into the gorge of another stream flowing down from T'aipai Shan; it follows up this gorge for a few li past the hamlet of Ch'enk'ou Wan and then turns up a side ravine to reach the base of a ridge called the Laochün Ling. From here there is a stiff climb for two to three hours, ascending 2500 feet, up a wooded mountain side to reach the pass (7500 feet), T'aipai Shan again becoming visible at intervals. From the summit there is a fine view to the S.W. across the lower ridges traversed by the trail back to the watershed range north of Fop'ing. After a steep drop of 2000 feet through a gorge Watientzu is reached, a few huts and inns, surrounded by precipitous mountains, in the ravine of a stream flowing down from T'aipai. This is another tiring march of 60 li. One is here in the district of Chouchih, the Laochün Ling ridge being the Fop'ing boundary.

From Watientzu the path runs down the narrow wooded gorge for about two hours' march, and then turns north up a gully which leads after a steep climb of 2000 feet to the summit of another ridge trending S.E. This is the last of the eleven passes which have to be crossed on this trail between the Han and Wei valleys. From the northern face of the range there is a very fine view over the Wei valley plain nearly five thousand feet below. From the pass the track descends by steep zigzags and then through a narrow gorge for three hours' march to reach the village of Hsin-k'outzu, lying a little above the plain at the base of the mountains, 80 li from Watientzu. The whole party heaved sighs of relief to find themselves once more on level ground; for the mountains with their fine scenery and bracing air are lost on the Chinese, who only notice the discomforts and hardships they entail for the traveller. The majority 300 of our large party had by this time had enough of the journey, and produced various excuses for returning to the provincial capital, two and a half days' march across the

000 the uplands, river plains, and irrigated lands respectively.
Leaving Ts'aichia P'o the road climbs the loess bluff to
133 the north, emerging on an undulating plain 500 feet above
487 the river, this being about the usual thickness of the loess
243 deposits in Western Shensi, and then runs N.E. across
361 wheat-growing prairies, past numerous hamlets and walled
farms, ascending gradually to reach Fenghsiang Fu.

Fenghsiang Fu, now a first class Hsien, lies at the western
361 end of the open Wei valley, where the mountains of the
Kansu border meet the Ch'inling Shan and bring these
fertile loess plains to an end. It is a large city and used to
be quite an important place, but its commercial prosperity,
destroyed during the rebellions and other troubles of the
past six years, has not yet revived. The inhabitants have
a bad reputation, and, like the town of Paochi on the Wei
River a day's journey to the south, it has in the past been
[491] a hotbed of the Ko Lao Hui. Its position near the junction
of the Ch'in Chou road into Kansu and the high road to
Szechuan gives it some importance, and cart tracks radiate
from it across the plain in all directions, ceasing abruptly at
the foot of the mountains.

CHAPTER V

FROM FENGHSIANG THROUGH THE LOESS OF WESTERN SHENSI TO YENAN

The loess plateau of Western Shensi—Linyu—Yungshou—Ch'unhua—Wheat harvest—Rifts in the loess—Yaochou—Origin of loess—Brigands of North Shensi—T'ungkuan—Yichün—Game in the mountains—Chungpu—Loch'uan—Fuchou—Ravages of brigands—Kanch'uan—Caves—Yenan.

After a couple of days' rest at Fenghsiang we started on a 487
long tour of the loess country of Northern Shensi, the
furthest point of which was to be Yenan Fu. There being 133
nothing in the nature of a main road in that direction from where we found ourselves, and being met with the usual protestations to that effect, we had to apply, as usual with success, the plan of proceeding from one district city to another in the required direction, until we struck the highway from Hsian to Yenan at Yao Chou. Between Fenghsiang and Yao Chou our route took us across a vast plateau of loess, which includes parts or the whole of the districts of Pin Chou, Ch'angwu, Sanshui, Yungshou, and Ch'unhua, and reaches in the N.W., a height of over 4000 feet. It has a marked slope to the S.E. and is intersected by the deep cañon of the Ching River and the ravines of many other streams all flowing in the same direction, and by innumerable rifts and crevasses in the loess from ten to five hundred feet in depth. Travel up and down this plateau along its slope between N.W. and S.E. is easy, but transversely from S.W. to N.E., the line of our march, most trying and arduous, owing to the necessity of constantly crossing the perpendicular rifts in the loess, varying from the tremendous cañon of the Ching River, nearly a thousand feet in depth, to a dry crevasse a hundred feet deep. All these rifts trend in the same direction as the slope of the plateau, i.e. S.E., and all have perpendicular walls. In order to avoid these rifts which increase in size and frequency as the plateau descends, our route kept as much as possible to the high ground and consequently made a long detour to the north.

487 From Fenghsiang to Yao Chou by this route is a distance of about 510 li, and thence to Yenan another 530 li.

133 Leaving Fenghsiang Fu by the East Gate the trail soon turns off the main road to the N.E. and runs across the plain for 20 li to the foot of the hills. Crossing a spur a few hundred feet high the path then descends into the ravine of a stream which is followed up for two hours' march to the hamlet of K'angchia Ho. The surrounding mountains are all of loess terraced for the cultivation of wheat and maize, [243] with the scattered inhabitants living mostly in caves. In this neighbourhood we came across some chikor of exception- 136 ally large size (the handsome red-legged partridge of North China), the only occasion on which I have seen them in the loess. These birds are called *Shih Chi* (stone fowl) in the mountains of Northern Chihli, where they are common, frequenting bare stony slopes. They are found in large coveys, which seldom fail to make their presence known by their characteristic call; but they are most difficult to shoot, as they are inveterate runners, always up hill, and, being very strong, carry a great deal of shot; the only way to get them is to descend on them from above. They are excellent eating, but not so good as the little brown partridge with a black patch on the breast, also fairly common in the mountains of the North. Throughout our journeys in Shensi and Kansu, however, we saw very few partridges compared to pheasants.

From K'angchia Ho the trail runs up a branch of the 487 stream to the N.E. for a few li and then strikes up the hill 133 side, and following a ridge between two ravines ascends gradually to reach a pass (4300 feet), the boundary between Fenghsiang and Linyu districts. There is much uncultivated land on these mountains, the grass-grown terraces gradually becoming obliterated; this is a common sight throughout Northern Shensi and Kansu, and together with the many ruined villages points to a decrease in population, supposed to be due to the ravages of the great Mahomedan rebellion of fifty years ago, but perhaps also due to a gradual desiccation of this region. All around are loess ridges and ravines in bewildering confusion; but there appears to be a sort of watershed trending S.E., a range which is known further east as the Ch'i Shan. From the pass there is no immediate

PLATE XII

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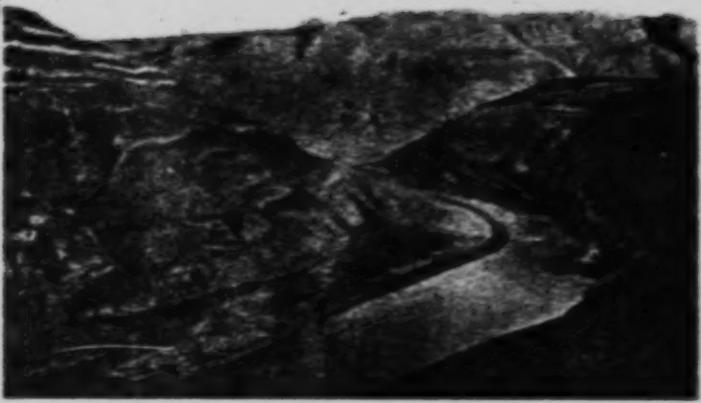

CANYON OF THE CHING RIVER, WESTERN SHENSI

491

FERRY ACROSS THE CHING RIVER

[FACING p. 53]

descent, the path following along a winding ridge, and then 487
dropping into the valley of a streamlet, which leads after 133
an hour's march to the hamlet of Liangshê, 80 li from Fenghsiang, where we stopped the night. On the following day an easy march of 40 li down the valley, through cornfields full of pheasants, brought us to Linyu Hsien. The 634
latter is a tiny city, the centre of a miserably poor third class district, lost in the brigand-infested loess mountains [579]
not far from the Kansu border. It is an isolated little place, lying on an unfrequented mule trail into Kansu *via* Lingt'ai. The magistrate, an intelligent young man of the student class, led a lonely and somewhat miserable existence, apart from the danger from brigands, and admitted that he only looked upon this, his first appointment, as a stepping-stone to something better. Most of the many magistrates we met took but little interest in their work, regarding their posts either as a necessary evil to be endured for a short time as a stepping-stone to something better, or as a means of getting rich quick. And yet their work of administration is really most interesting and affords many opportunities of improving the lot of the people. But they can hardly be blamed for taking so little interest in their districts in view of the present system under which they may at any moment have to make way for another place-hunter. Thus it often happened that we came across magistrates who, never leaving their dilapidated little yamens, had only the vaguest knowledge of the geography and inhabitants of their districts.

Life in Linyu city, as in countless other little Hsiens 361
buried in the interior of China, is that of the middle ages, 579
and the appearance of its streets and walls, with ancient cannon and gingals and heaps of stones all ready to hurl on the heads of an attacking force of brigands, has probably changed but little for hundreds of years. Revolutions, rebellions, and battles in the plains below, in which the contending forces pump lead at one another with modern rifles and machine guns, have little effect in these isolated hills, except that the brigands become more and more formidable from year to year.

Linyu lies on a loess bluff overlooking the junction of 487
two streams from the west and north, flowing in beds of shale and sandstone at the bottom of deep narrow valleys 133

487 in the loess hills. The path, crossing the northern branch,
133 strikes up the hill side between two ravines and emerges on to a wheat covered plateau intersected by rifts and valleys in the loess. It runs across this plateau in a northerly direction, ascending gradually, for a couple of hours, and then, as the cañons on either side close in and the plateau narrows to a spur, it follows along the top of the latter, still ascending, for another hour to reach the village of Tsuimu, 4800 feet, perched up on a ridge with the ground falling away in deep cañons all around, and 40 li from Linyu. [552] Supplies were very scanty in these hills, as the people are miserably poor; but a little wheat flour could usually be obtained, which was good where not mixed with too much loess in the process of threshing and grinding. Cock pheasants could generally be secured out of the corn fields when required.

It is an agreeable peculiarity of loess mountain country that the trails follow where possible along spurs and ridges rather than the valleys (this is so, in spite of a famous and much quoted description of the loess in which the life and traffic of the region is described as moving along the bottoms [651] of the cañons), and Tsuimu lies on a sort of knot, where several ridges and therefore mule trails meet; consequently, though only a dot of a place, it boasts a likin station, and commands two trails into Kansu. The path to Yungshou Hsien, 50 li, follows along the top of one of these winding ridges, this one being actually the summit of a range which runs eastwards from the Kansu border and constitutes the first barrier crossed by the Great West Road between Hsian and Lanchou, and provides a most interesting march owing to the continuous and extensive views on either side over this peculiar loess country. To the south a series of loess spurs and intervening ravines fall away steeply towards the Linyu valley, beyond which the Ch'i Shan range is seen to end, as Yungshou is approached, in the rolling plains of the Wei River and its tributaries; while to the north, across an intervening dip, rises like a wall the edge of the loess plateau country of Eastern Kansu. These loess clad ridges of Western Shensi seem to be pieces broken off from the Kansu plateau, like the mountains on the edge of the Mongolian plateau, south of Dolonor in Northern Chihli.

Where the loess has been washed away shales and sandstones 487
are revealed, and often right on the tops of the spurs there
are outcroppings of a sort of conglomerate of waterworn /133
pebbles cemented together. The loess mountains in this
neighbourhood are little cultivated, being covered with [233]
poor-looking pasture, which supports scanty herds of cattle
and flocks of sheep. Finally there is a descent of a few hundred feet to reach the city of Yungshou Hsien, which lies a little below the crest of the ridge, on the shoulder of a spur up which ascends the Great West Road from the Hsian plains.

Yungshou consists of one street running up the ridge 361
and is merely a walled-in section of the big road; it is a replica of Linyu, with a little more life in it owing to its position on the Kansu highway. We had passed through it two years previously almost to a day on our way to the latter province, the season of the year being the end of May.

Our next objective was the district city of Ch'unhua 487
(locally Shunhua) distant two marches of 90 li each. Leaving
Yungshou we followed up the main road for a few li to /133
regain the crest of the range, where I shot some cock pheasants in almost the identical spot as two years before, and then turned eastwards once more along the top of the ridge for 25 li to a cave village. Here the ridge ends in rolling uplands of loess, the beginning, from this side, of the great loess plateau of Western Shensi. The Belgian railway (Lung Hai) from Hsian to Lanchou will, it is said, follow up the Wei River, the line of the cart road being apparently too difficult; an easier route might perhaps be found following up the slope of this plateau through
Sanshui district to Ch'ingyang, and thence through Northern
Kansu. The upper portions of these rolling plains where [283]
we met them are uncultivated and covered with poor sheep
pasture, apparently owing to the lack of water, the one great drawback to the loess; and one might imagine oneself on the grasslands of Eastern Mongolia, until, on attempting to cross the plateau in any direction away from the trail, one almost immediately fetches up against a chasm in the loess with perpendicular walls perhaps hundreds of feet deep. Lower down these uplands are one vast cornfield

487 through which the path descends to reach the township of
133 Ch'angning Chen, winding to and fro to avoid the rifts, the heads of ravines and valleys breaking away south and southeast.

243 464 The harvest time on these immense wheat prairies which was now approaching is a period of intense activity. The crops are of course gathered entirely by hand, and large numbers of labourers from Kansu, groups of whom we were constantly meeting, come down to assist; after the harvest is over in the Wei valley plains they work back across the plateau of Western Shensi to their native highlands,
438 harvesting as they go. In good years there must be a large surplus of wheat in Shensi and Kansu available for export; but in the absence of waterways and railways the means of communication are so bad that it would be impossible to move the harvests to any distance.

487 From Ch'angning the path runs in a northerly direction
133 across the plateau, winding about to avoid the impassable rifts, for about 20 li, where it reaches the Ching River, flowing in a deep narrow cañon some 800 feet deep. There is a steep descent into this gorge, and the Ching River, an unfordable torrent of liquid mud, is crossed by a ferry. This cañon exposes clearly the depth of the loess covering, some five or six hundred feet, the stream having carved itself a bed still deeper down in the underlying rock. The track climbs out of the gorge to the top of the plateau a similar height on the further side, and then runs across the undulating uplands for 15 li to the village of Kao Ts'un in the district of Pin Chou, 90 li from Yungshou. This is a tiring march, including the passage of the Ching Ho, for on the small roads of Northern Shensi the li are apt to be very long.

From Kao Ts'un the track continues N.E. for another 30 li to the village of T'u Ch'iao (4400 feet), in the district of Sanshui, now called Hsünyi Hsien, the highest and most northerly point on the plateau reached between Yungshou and Ch'unhua, whence it runs S.E., descending gradually with the slope of the land, for 45 li, to the large village of T'ungshen Kou. So far the trail by keeping to the north had avoided the crevasses in the loess, but as soon as one turned S.E. they began to be met. Thus between T'u Ch'iao and T'ungshen Kou three streamlets flowing in deep rifts in the loess have to be crossed, the last named place lying on the further edge of the third. The passage of each rift means a precipitous climb down into the gorge of 500 feet or more and a similar ascent the other side (this being the thickness of the loess covering); at the bottom there is usually a streamlet flowing in a rocky bed underneath the loess. The constant crossing of these rifts (called *kou* by the Chinese) was most trying in the dry heat of early June, and at midday the temperature at the bottom of the *kou* was sometimes terrific. Water is very scarce in loess country, and apt to be brackish, and the streamlets at the bottom of the rifts are their only redeeming feature from the traveller's point of view. The passage of these rifts was a constant and arduous feature of our daily marches from now on until we had completed our tour of Northern Shensi. Sometimes marching towards a village after a long day the weary traveller sees his destination apparently only a few hundred yards away, only to find that it is separated from him by a *kou* 500 feet deep which takes at least an hour to cross. From T'ungshen Kou the track continues S.E. across the sloping plateau for 20 li, descending steeply for the last mile or so, to reach Ch'unhua Hsien, a poor little third class district city, lying in a sort of basin formed by the junction of several valleys and rifts in the loess some distance below the level of the plateau. To the south the loess rises steeply to a low rocky range separating the Ch'unhua valley from the Ching Ho.

From Ch'unhua to Yao Chou is a distance of 115 li, two short marches. The trail climbs out of the valley to the level of the plateau a few hundred feet above and continues eastwards, keeping to the high ground and winding round the heads of several rifts in the loess. After two to three hours' march the cañon of a streamlet flowing south is crossed by the usual zigzag descent and ascent, and another hour brings one to the village of Fangli Chen, 40 li from Ch'unhua. Thirty li further on the village of Hsiaoch'u is reached, after crossing two more huge rifts, with streams flowing as usual S. and S.E. The passage of these cañons is the exact inverse of crossing a pass of equal height; instead of the summit of a ridge with the view and breeze to refresh one there is the airless sweltering heat of the bottom of the

487 *kou*. Again referring to the well-known description of
133 the loess which depicts the life and traffic of the region as moving unseen along the bottoms of the rifts, the converse holds good on these table lands of Western Shensi, the villages, farms, and roads lying on the top of the plateau, and the bottoms of the cañons being often lifeless. From Hsiaoch'u the track runs eastwards over the plateau, crossing two more rifts *en route*, for four hours' march to reach Yao Chou, lying in a valley at the junction of two streams flowing south.

133 The region traversed on this route between Yungshou and Yao Chou must be one of the best examples in the world of a pure loess plateau. It is dotted with low mountain outcroppings, and travelling across it one is strongly impressed with its resemblance to a series of old lake basins which have been drained off to the south-east. The loess soil, a sort of very fine sandy loam, which covers almost the whole of North Western China north of the Ch'inling Shan to a depth of many hundreds of feet, is supposed to have been deposited as the result of the dust storms of countless ages from the Gobi deserts of Mongolia combined with the decomposition of vegetable matter. The longer we travelled in the loess country the more difficult it seemed to credit this theory. The Chinese take it for granted that these wonderful deposits of *Huang T'u* (yellow earth, as they call it) were caused by water, that is to say by the great floods which according to their historical records once submerged N.W. China at about the same period as those recorded in the Bible. For anyone well acquainted with the country it requires but little effort to imagine these turgid floods of yellow waters washing the base of the Ch'inling Shan as they poured down from the N.W., and depositing the loess, even as its redeposit may nowadays be watched on the banks of the Yellow River between Ninghsia and Paot'ou. The configuration of the Wei basin in Shensi is exactly that of the bed of a huge river washing the base of a rocky cliff on its southern bank and sloping up in shallows towards the north. Further, in every rift or ravine, which is cut down through the loess to the underlying shale or sandstone, a layer of mixed loess and water-worn pebbles is almost invariably exposed

immediately above the rock on which the loess rests. The 133
regularity of level and depth of the loess over wide areas,
the invariable slope of the loess uplands in the same direction
as the rivers and streams, i.e. all draining S.E. and the
meeting-line of the light sandy loess and the heavier reddish
loess, which can often be traced for miles at the same level,
may also be noted in support of a water origin; while lastly
there is the fact that the loess has nowhere, except in the
extreme west, crossed the Ch'inling Shan, a continuous
range, whereas it is piled high on either side of other ranges
which are not continuous. These lines are written without
access to books of reference of any kind, and it should be
understood that they represent merely the impressions of a
traveller with no scientific training, who has not the least
intention of starting a controversy on the subject of a problem
which has probably long been settled by competent scientists.
But in spite of the fact that we have often seen loess at a
height of 6000 feet or more, it is difficult to believe that it
was not deposited there by water.

Yao Chou, now a second class Hsien, is quite a large 361
city for Northern Shensi, and about the most prosperous, 247
or rather least miserable, place we came across in that
region. It lies, surrounded by indigo fields, in a narrow
valley below the level of the loess uplands. We were here 701
joined by a *Lien* (company) of infantry, since the north
of Shensi is, at the time of writing, so overrun with brigands,
well armed and organized in bands many hundreds strong,
that it would have been impossible for a party of Chinese
officials to tour those districts with a smaller escort. Curiously 609
enough, owing to the extraordinary change which has
occurred in the position of the foreigner in the interior of
China since the Revolution of 1911, while no Chinese but
brigands, soldiers, or the poorest of coolies can travel on
the roads of Northern Shensi without great danger to
property and life, a missionary or other foreigner can
circulate where he pleases with comparatively little danger
of being attacked. We had so far been accompanied by a 579
small mounted escort of a dozen men or so; for though the
mountainous districts of Southern and Central Shensi
through which we had passed harbour plenty of brigands,
these are mostly local robbers who plunder isolated travellers

PLATE XIII

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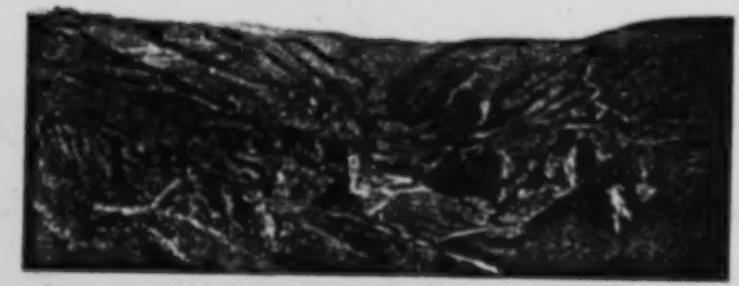
AT THE BOTTOM OF A LOESS RIFT, WESTERN SHENSI



LOOKING DOWN A LOESS RIFT, WESTERN SHENSI

[FACING p. 60]

579 and levy blackmail on the villages. The north of Shensi on
the other hand was at the time of our visit in the hands of organized troops of brigands of a semi-political character, robbers one day, rebels the next, and perhaps successful revolutionaries the next.

487 At Yao Chou we struck the main trail from Hsian Fu to
Yenan, Suitê, Yülin, and the north of the province generally;
491 with the exception of the little known and seldom used
track by which we returned it is the only trail connecting Central and Northern Shensi. As far as Yenan and Yench'ang it is passable for carts, having been constructed at considerable cost for the transport of the Japanese oil-drilling machinery to Yench'ang in 1906, and again repaired by the Americans during their oil-drilling venture eight years later. This road might at comparatively small cost be made passable for motor traffic, and had the American enterprise succeeded would doubtless long since have been made so. As it is, it nowadays leads into a depopulated, brigand-infested region where there is no trade and traffic, and is gradually reverting to the condition of an ordinary Chinese trail. But it is an example of the ease with which a comparatively good cart track can be constructed through mountainous country, where, without the stimulus of a foreign interest, the Chinese would for ever remain content with the usual villainous mule trail.

487 The first stage from Yao Chou is a short one, called 60 li,
133 to T'ungkuan Hsien, and lies up the valley to the N.E., which,
except at one point about half-way where it contracts into
361 a gorge, is cultivated and bounded by low hills of loess.
T'ungkuan is a little third class district city lying at the foot of the first of the mountain ranges which cross Northern Shensi from N.W. to S.E.

The next day's march is from T'ungkuan Hsien to Yichün Hsien, a distance of 80 li. The track runs up the valley to the north, the loess hills gradually becoming more rocky and less cultivated, for 25 li to the barrier hamlet of Chinso Kuan, where an old wall and fort guard the entrance to a gorge. Here the loess is left behind and scrub-covered mountains are entered through a winding gorge, which leads by an easy ascent after three hours' march to the hamlet of Liehch'uan, lying on the top of the range at a height of about 4700 feet. From the pass there is no immediate 487 descent, the track following along a winding ridge in the 133 grass and brush-covered hills for 25 li, and then descending a few hundred feet to reach Yichün, a dilapidated little city, built on the side of the ridge, the centre of a very poor [361] third class district.

The range of mountains crossed on this day's march forms the watershed between the Lo and Wei rivers, the two principal streams draining Northern Shensi, and rises well above the loess covering. Perhaps the soil of no region [311] in the world has been worked by man to the same extent as the loess of Central Shensi, where the Chinese have been scratching, sowing, and reaping uninterruptedly for some 4000 years or more, and the landscape of those plains appears tired and worn out. It is therefore a relief to get out of the loess, with its alternate dust and mud, glaring heat, insufficient and often brackish water, and treeless and monotonous scenery, into these mountains with their clear streams, grassy downs, and brush-covered slopes, haunted by innumerable deer and pheasants. In all our travels we 136 found few spots more teeming with game than the hill sides in the neighbourhood of Yichün, and being now in a country where supplies were practically nil, we bagged quantities of cock pheasants, in pursuit of which it was seldom necessary to go more than a hundred yards from the road. We saw plenty of deer, apparently roe, too, but as we could get as many pheasants as we wanted, we did not trouble to go after them.

This range also marks the dividing line at present 579 between the comparatively peaceful regions of Central Shensi and the brigand infested north. Yichün had been 628 raided but recently, and was generally speaking in a most dilapidated condition from this and previous raids. When leaving the next morning we passed a crowd of the usual emaciated dogs outside the North Gate feasting on the remains of some decapitated brigands, an unpleasant sight at six o'clock in the morning, but one which gave great pleasure to most of the party. For a dead brigand cannot but be a pleasant sight to a peaceful Chinese, and my companions kept on repeating to themselves with real satisfaction *kou ch'ih t'u fei* (dogs eating brigands), as being an entirely

579 628 suitable and satisfactory state of affairs. Unfortunately my enquiries showed that these decapitated bodies were not those of the real brigands of these regions at all, but of some strangers who arrived at the city gates and could not give a satisfactory account of themselves, and who had accordingly been executed so as to be on the safe side.

634 Most of the magistrates in Shensi are now natives of the province, young students and military officers of the new school, but in one of the districts on this road we met an official of the old type of magistrate *de carrière*, a Hunanese who had just come down from Chinese Turkestan where he had been serving for years. Though the virtues of the new type of local official in China may be great, it was a pleasure to meet a gentleman of the old school with his many and varied experiences, and we had a long talk about mutual acquaintances serving in the deserts of the far North West.

487 133 From Yichün the path follows down the ridge descending gradually for 35 li to the village of P'iench'iao, where the mountains give way once more to loess hills and the ridge flattens out into a plateau. The track continues across this tableland, winding to and fro to avoid the usual rifts in the loess falling away into the valleys on either side, and then descends steeply for the last five li to reach the district city of Chungpu lying in the narrow valley of a stream flowing east.

132 We were now once more in the loess with its glaring dry heat and choking dust. The season of the year was early June, when all over North China there is a spell of very hot dry weather, corresponding, presumably, to the heat of Northern India before the monsoon. In July and August the rains break, and though the steamy heat is then trying enough, and the loess is turned into slimy mud, the change is a great relief.

634 At Chungpu we were met by the Taoyin of Northern Shensi, whose seat is at Yülin Fu on the edge of the Ordos. His post is at present a most difficult one owing to the northern districts being so overrun with brigands. He told us that the extreme north of the province was much less desolate and more prosperous than the districts we were
487 now traversing. We had heard much of the terrible "bitter-

ness" of this road, and certainly what with the ravages of 487
brigands and the natural infertility of the soil, the few inhabitants were poor to the verge of starvation. Yenan seems to be the centre of the most desolate area, by far the poorest region I have traversed in China outside the actual deserts.

Chungpu, a poor little third class district city half in 361
ruins, lies on the side of a hill, with a sacred grove of very 778
ancient trees behind it, which present a remarkable sight
in this treeless country. Near by is a small temple containing 769
the tomb of the Emperor Huang Ti, who reigned some 4000 years ago, which illustrates the great antiquity of these little Shensi towns.

The next day's stage to Loch'uan Hsien is a trying 487
march through the loess. The track follows down the valley 133
to the east for 20 li, and then turning north climbs up through a gully on to the plateau a few hundred feet above, across which it runs for an hour's march to the hamlet of Antzu T'ou, whence it drops into the valley of the Lo River. This stream resembles the Ching Ho, a muddy torrent twenty yards wide, and flows in a narrow valley some hundreds of feet below the level of the loess plateau. It is crossed by [491]
a ferry at the hamlet of Chiaoho K'ou, and the path then climbs steeply out of the valley again and runs across the plateau in a N.E. direction for three hours' march to reach the district city of Loch'uan. The latter is the usual little 361
third class Hsien city of Northern Shensi, but appeared to be rather more prosperous than its neighbours and to show less signs of the ravages of brigands. It lies on the loess plateau, intersected as usual by colossal rifts, the heads of some of which are so close to the city that they threaten to engulf it in a few years time. These towns and villages on the loess plateau are quite unapproachable except by the existing roads owing to the rifts which open up all around, and could be held by a few men against an army; perhaps that is why Loch'uan appeared comparatively immune from brigand raids.

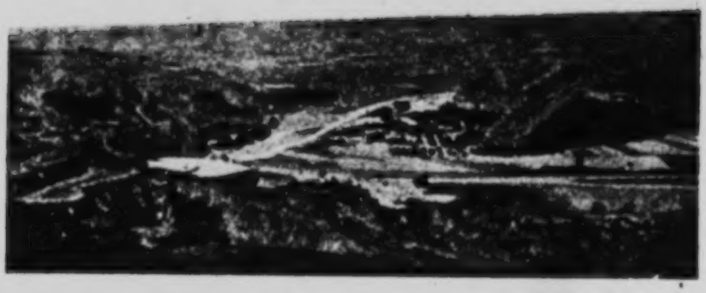
From Loch'uan to Fu Chou is another exhausting march 487
in the loess of 75 li. The track runs N.E. across the plateau 133
for an hour's march until it is held up by a huge cañon with the usual perpendicular walls. Climbing in and out of

487 this gorge it continues across the plateau, only to meet a
few li further on with another and still larger rift, at the
133 bottom of which there is a welcome stream and a hamlet
called Chiehtzu Ho, the boundary of Loch'uan district. The
crossing of a district boundary was always noticeable
throughout our journeys, because it entailed a welcome rest
and an exchange of civilities with a new magistrate. After
the usual five hundred foot climb out of this cañon the path
runs across the plateau northwards for an hour or so, and
then drops again into the valley of the Lo River, here containing
a considerably less volume of water than where
crossed on the preceding stage, the difference being due
to a large tributary from the west which joins it in between.
[311] Most of the terraced mountain sides in this neighbourhood
have gone out of cultivation, and from here north to Yenan
Fu the country becomes more and more desolate and
depopulated. Another 20 li up the winding valley brings
one to Fu Chou.

361 Fu Chou, now Fu Hsien, a second class district city,
is a fortress of great antiquity guarding this highway into
712 the heart of ancient China against the invasions of the hordes
of barbarians from the North. It fills up most of the valley
with its walls climbing up the hillside. Since the Mongol
ceased to threaten Fu Chou has entirely lost its former
importance and is now in a most miserable and decayed
condition. A walk on the wall shows the usual dilapidated
little city, but a stroll through the streets reveals the fact
that it is practically empty, *k'ung ch'eng*, as a Chinese
[166] remarked to me. The explanation of this lay in the fact
that it had been sacked four times by brigands during
the preceding year, and the inhabitants, having given up
residence there as hopeless, had emigrated to other parts or
634 provinces. We afterwards passed through many other cities
and villages in Northern Shensi in the same condition. The
625 post of magistrate in these districts is an exceedingly
unenviable one, and it appears to be difficult to get men
579 to take them up. If the brigands come, the *ching pei
tui* (police) are helpless, and the magistrate is lucky if
he can save his life by escaping into the mountains. The
official of one of these cities informed me that it was inadvisable
to arm the local police with modern rifles, as, the

PLATE XVI

133



LO RIVER IN A VALLEY IN THE LOESS PLATEAU NEAR FUCHOU

361
342

CAVE VILLAGE IN SEMI-DESERT COUNTRY NEAR YENAN

[FACING p. 65]

[625] [634]

place having long been swept bare of all its valuables, there would be nothing to attract another raid provided there were 579 no modern arms and ammunition in the place. Silver, opium, rifles, and ammunition are what the brigands go for. The only thing that was not utterly decayed in Fu Chou 712 was a brand new *chai* (hill fort) on the top of the mountain behind the town, built by the magistrate and the few remaining inhabitants as a refuge against the next raid. In 534 the centre of the town is an old tower containing an ancient bronze bell of fine workmanship dating from the T'ang Dynasty, the only object of value which survives the periodical raids. From Fu Chou a track leads westwards to Ch'ingyang Fu in Kansu, one of the very few east to west trails in these parts.

From Fu Chou to Kanch'uan Hsien, a distance of 85 487 to 90 li, the trail runs up the valley of the Lo River through 133 poor-looking crops of maize, millet, hemp, and wheat. The loess hills on either side are mostly uncultivated and the 361 whole region gives the impression of turning into desert. Several miserable hamlets are passed, consisting mostly of 342 caves or cave houses, the latter queer-looking square huts built of earth and stones with tunnel-like interiors. Scarcity of wood for roofing purposes is said to be the reason for constructing these remarkable artificial caves, but probably the people are so used to living in caves that they do not feel at home in anything else. A good cave in the loess is not to be despised as a dwelling, being rain proof, warm in winter and cool in summer. Owing to the vertical cleavage which is always going on in the loess these caves are constantly collapsing, but the owners seem to know by instinct when it is necessary to remove to a new abode. Kanch'uan is a smaller replica of Fu Chou, a ruined empty shell of a city.

Here the trail to Yenan, distant 85 li, leaves the Lo River 487 and follows up a side valley to the N.E. which leads after three to four hours' march by an easy ascent to the pass 133 (4100 feet) in the divide between the Lo Ho and the Yen Shui. This divide is entirely covered by loess, but curiously enough there is a complete change of scenery, and the ascent and descent is through jungle clad ravines and over grassy downs. These mountains are uncultivated and uninhabited,

133 but here and there the remains of old terraces, evidently
487 abandoned for many years, are noticeable. Descending from
the pass this curious zone of comparatively rich vegetation
is soon left behind and one approaches Yenan by a desolate
looking valley between hills of sandy, barren loess. The
[243] crops are miserable in the extreme, and consist mostly of
millet, little or no wheat being grown. Three to four hours'
march down this valley brought us to the gates of Yenan Fu.

2: Teichman G-5 (1919) 1921 AF13 Northwest China AF13

PLATE XVII

133

DIVIDE BETWEEN THE LO HO AND YEN SHUI NEAR YENAN

346

CAVE TEMPLES IN SANDSTONE CLIFF OPPOSITE YENAN

[FACING P. 78]

316 no oil was found anywhere except at Yench'ang alongside 471 of the original Japanese well.

Finally in the summer of 1916 work was stopped, the Americans withdrew, and the enterprise was apparently abandoned, the bulky machinery being left behind. Apart from the absence of oil, there must have been many difficulties to contend with in connection with the brigandage and increasing chaos in that region.

The wells have now been filled in, and scarcely a trace of the Americans remains, except for the derelict machinery and the good reputation the surveyors and geologists left behind them amongst the natives, who speak of their departure with great regret and look forward to their ultimate return.

The failure of the enterprise was a bitter disappointment to the local Chinese, for whom the two years were a golden age and who had conjured up visions of railways, roads and pipe-lines, and an era of booming prosperity. Instead of which Northern Shensi now continues as of old to produce little but sand and brigands.

The two original Japanese wells continue to produce oil, and the concern, under official management, flourishes in a small way. Their output is limited by their facilities for refining and transporting the oil, and only one well is therefore usually at work. The oil is sold in the neighbourhood and also across the Yellow River in Shansi, where the people [492] are more prosperous. Transport is by pack mule over the roughest of mountain trails, and the expense of carriage prevents its penetrating any great distance. It was of course owing to the inaccessibility of the region that it was necessary to find oil in really large quantities to make the installation of a pipe-line, say to the Yangtzu, worth the enormous expense entailed.

487 From Yenan we proposed proceeding east to Yench'ang and to work our way thence somehow or other back to 133 Hsian through Eastern Shensi. Of course everyone said there was no road in that direction, and we knew that the country just west of the Yellow River was likely to prove very rough and poor. But we felt confident that we should as usual always find trails of some kind from one district city to another. As events turned out we found a trail,

which, though very arduous and passing through desperately 487 poor mountainous country just inland from the Yellow 133 River, had apparently once been quite an important route. From Yenan to Hsian by this route *via* Yich'uan and Hanch'eng was a distance of about 1030 li, and took us more than two weeks' hard travelling.

From Yenan to Yench'ang is two days' march, 80 and 60 li respectively. The first stage lies down the valley of the Yen Shui between low hills of loess to the village of Kanku Yi. Ten li out one of the oil wells drilled by the Americans in 1916 is passed in the mouth of a small gorge; it has now been filled in. There are several cave villages on [341] the road, the largest being Yaotientzu 50 li out, where there are inns. Kanku Yi, as its name implies, is the ruin of an [185] old fortified posting stage (*Yi*) such as are common on the main roads of Kansu; here the main trail to the north of the province turns N.E. to Yench'uan and Suitê, while the Yench'ang track continues down the valley to the east.

Twenty-five li from Kanku Yi, at the hamlet of Heichia P'o, the river turns south, and the trail strikes up a ravine to the east to gain the top of the loess plateau some 500 feet above the valley, runs across the level upland for a few li, and then drops steeply into another ravine, which is followed for 20 li till it debouches again into the valley of the Yen Shui at Yench'ang Hsien.

Yench'ang lies in the narrow valley of the Yen Shui, 316 right on the river bank, in the mouth of a tributary ravine. The presence of the petroleum is very apparent from the smell which pervades the whole place, and as we were quartered and entertained on the premises of the oil concern and within a few yards of the principal well, the penetrating smell of mineral oil never seemed to leave us for a moment from the time of our arrival till that of our departure. The two wells lie just outside the city wall to the west; the principal one was pouring forth a steady stream of oil at the time of our visit and apparently never ceases doing so. 361 The city itself is the usual little third class district town of Northern Shensi, but it is less dilapidated than most of its neighbours and the walls are in better repair. This is owing to its not having been sacked by brigands during recent years, for which immunity from the prevailing evil credit is also, it seems, due to the beneficent oil.

000 is also, it seems, due to the beneficent oil. As the traveller 373 approaches Yench'ang he will note that the city walls appear to be weeping or oozing oil, and the explanation of this curious fact becomes strikingly apparent at night time. For in the embrasures all round the walls every yard or so are placed pans of crude oil, which are lit up when darkness falls and illuminate the whole city and neighbourhood in the most remarkable manner. The effect on anyone not expecting it is extremely startling. Night after night throughout the year this desolate little city lost in the wilds of Northern Shensi indulges in this orgy of illumination. But it costs practically nothing and seems to be very effective in scaring off the brigands, who usually make their raids on moonless nights; doubtless the prospect of having a pan of burning oil upset over their heads deters them also.

487 The next stage on our journey by this route was the city of Yich'uan Hsien, two long marches due south of Yench'ang. 133 The trail runs down the gorges of the Yen Shui, being ledged in the cliff on the left bank, for about 15 li, and then crossing the river by a ford strikes up the hill side to the south to reach the top of the loess plateau some 600 to 700 feet above the valley; continuing across the plateau for an hour or so it then drops steeply to the hamlet of Ankou Chen in the gorge of a tributary of the Yen Shui, called 35 li from Yench'ang. From Ankou the path strikes immediately up the opposite hill to reach the top of the plateau again, the latter here taking the form of a series of flat-topped loess ridges running down towards the Yen Shui from a range trending east and west. A two hours' march to the south up the flat top of one of these ridges brought us to the top of the range (4500 feet), the watershed between the Yen Shui and a stream called the Yunai Ho; the range is composed of grassy downs of loess with occasional outcroppings of rock. From the pass the trail follows a spur to the south, which soon flattens out into the usual square-topped loess ridge, and descends gradually for four to five hours' march, with finally a steep drop into the valley of the Yunai Ho to reach the ruined township of Yunai Chen. The country traversed on this day's march, as also on the following one, consists of loess mountains with a little cultivation on their lower slopes. Villages are very scarce,

and the trackless downs and mountains are the haunts of the brigands of these regions, who live in unknown cave villages in the heights, whence they make their forays into the valleys. All the streams, such as the Yunai Ho and others, take their rise in these loess mountains and run eastwards to join the Yellow River, flowing in beds of shale and sandstone at the bottom of narrow valleys in the loess. The Yellow River is said to be reached 100 li down the valley from Yunai Chen. From Yench'ang to Yunai Chen is called 80, 90, or 100 li, according to the fancy of the individual questioned. Distances are not fixed on these small by-roads as they are on the main trails. We found it a very long march; my mule train, composed of particularly good animals which usually averaged well over three miles per hour, took more than ten hours to cover the distance, exclusive of halts. The li on the small roads of Northern Shensi and Kansu are very long. 100 li on a main road in the Han valley is certainly not more than 25 miles at the outside; but the 100 li from Yench'ang to Yunai must be nearer 35 miles.

The next day's march to Yich'uan Hsien is called 80 li. The path runs up a side ravine to the south-west for an hour and then ascends steeply to gain the top of the plateau, which here serves as the divide between the Yunai Ho and the Yich'uan stream. This divide is not a mountain range but a level tableland of loess, the highest point being about 4000 feet. There is the usual view over innumerable flat-topped loess ridges sinking down in the east towards the Yellow River, the trough of which can be vaguely descried; to the north the range crossed on the preceding march bounds the view; and to the south a similar but higher range rises steeply behind the Yich'uan valley. After an hour's march in a southerly direction, descending gradually along the usual flat-topped ridge of loess, the track drops steeply into a ravine which leads down after 20 li to the ruins of a walled village called P'inglo P'u, resembling hundreds of similar dilapidated old forts scattered throughout Northern Shensi and Kansu, most of which have been taken and retaken, sacked and re-sacked, by Mahomedans and Chinese during the days of the great rebellion. Here the path leaves the stream, which flows S.E., and striking again up the slope to

487 the south, runs for two hours' march across the flat-topped
hills, descending finally by precipitous zigzags to reach the
133 city of Yich'uan lying in the narrow valley of a stream
flowing east to join the Yellow River. The country crossed
on this march is again pure loess, very sparsely populated,
and with innumerable grass-grown terraces which have gone
out of cultivation and render evident the depopulation of
the region.

361 Yich'uan Hsien, lying at the junction of two narrow
valleys in the loess, is the capital of a second class district,
and was evidently a comparatively large and prosperous city
in the past. At the time of our visit it was practically empty,
and lying in the heart of that wild and little frequented region
which contains the chief haunts of the brigand bands of
Northern Shensi, it is at the present time uninhabitable by
any but the poorest classes. Northern Shensi, depopulated
669 by the Mahomedan rebellion fifty years ago, and now
162 probably undergoing a process of desiccation, is losing its
few remaining inhabitants of the better class through the
devastations of the brigands, many having moved across the
Yellow River into Shansi, where conditions are much better.
Recently a large band of brigands, perhaps finding that
Northern Shensi was getting rather bare, also moved across
the river; but prompt military measures were taken by the
Shansi authorities and they were soon driven back to their
original haunts with great loss. The question naturally
arises, why should these brigands be left apparently unmolested
by the authorities of their own province?

701 The answer is provided by the history of events in
Shensi during the years since the revolution of 1911, which
579 is outlined in another chapter. The brigands of Northern
Shensi are mostly ex-soldiers and Ko Lao Hui men, and
are composed of the same material as the provincial troops,
with whom they exchange rôles from time to time. It is
therefore not possible to use the latter against them. Further,
they constitute in a way the reserves of the provincial army,
which are thus maintained without cost to the provincial
[714] Government. The Shensi soldier usually owns his own
Mauser and as much ammunition as he can carry wound
round and round his body in a cloth bandolier, acquired
in the course of some previous rebellion or brigand raid,

669 secret society men as soldiers; after the rebellion is over, whether it succeeds or not, the soldiers are disbanded and 579 scatter with their arms over the country, with the inevitable result of increased brigandage. The growth of brigandage in 701 Shensi may easily be traced since 1911, the revolution of that year, the rebellion of 1913, the White Wolf rebellion in 1914, the anti-monarchical rebellion of 1916, the troubles of 1917, and so on.

133 From Yich'uan Hsien to Hanch'eng Hsien is a distance of about 240 li, three hard days' march by a difficult track 487 through the mountains which here hem in the Yellow River. All the way from Yench'ang south to the plains of Central Shensi, which are reached at Hanch'eng, the traveller is crossing a series of parallel ridges trending east and west across his path; but while between Yench'ang and Yich'uan the intervals between these ridges are filled by loess which provides comparatively easy slopes, the region between the latter place and Hanch'eng is covered by mountains which are practically free from loess and entail the crossing of a series of precipitous little passes. The trail slants across these mountains towards the Yümen K'ou, the point where the Yellow River emerges from its gorges on to the plains; the river itself is not touched, though glimpses are caught from the tops of the passes of its huge trough in the mountains.

From Yich'uan the trail runs up the valley to the S.W. for a few li and then turns up a gorge to the south, which leads after a couple of hours' march to the foot of the barrier range which bounds the Yich'uan valley on the south. A steep climb leads to the pass, the Lut'ou Ling (5100 feet). This range and the valleys and spurs leading up to it, though covered with loess on the northern side, are uncultivated and uninhabited. On the southern side there is practically no loess, and the latter is not met with in any quantity again till the path debouches on to the plains of the Yellow River above Hanch'eng three days later. The absence of loess in the low-lying valley bottoms of these mountains is rather curious, and one may speculate whether perhaps the Lut'ou Ling range, which before the existence of the Yellow River was probably joined to the mountains of Shansi, did not form a barrier keeping the floods which deposited the loess from reaching this region, which constitutes an isolated area sloping S.E. and hemmed in by surrounding mountains; in the case of the similar Yich'uan and Yunai basins further north, the surrounding mountains were perhaps not sufficiently high to keep out the floods, the ranges being themselves nowadays buried in loess. 133• 487

From the pass there is an easy descent through a gorge for 20 li to Hsiehchia P'ing, the ruins of a hamlet destroyed by brigands, where several ravines join to form a stream flowing east towards the Yellow River. The surrounding mountain slopes are rocky and uncultivated, and except for the scarcity of water resemble the Ch'inling ranges rather than the mountains of Northern Shensi. From Hsiehchia P'ing the path follows up a side ravine which leads after an hour's scramble to another pass (4800 feet); it then drops straight down the mountain side into a gorge which is followed for four hours' march until it expands into a valley at Ch'iyi Chen, a small township called 100 li from Yich'uan, where we passed the night. This is an exceedingly long and tiring day's march over a rough and rocky trail, and my mules were nearly twelve hours on the road; but there is no accommodation short of Ch'iyi Chen, the mountains being almost uninhabited and the few huts passed having mostly been destroyed by the brigands, and we had no tents with us on this journey. Everyone was fairly exhausted when we got in, a tremendous thunderstorm during the last hour completing our discomfiture; but owing, as usual, to the thoughtful assistance of the district magistrate we were comfortably housed in the principal shop of the village. Throughout our long wanderings the preparation of accommodation of some kind at the end of a march by the local official made all the difference to our comfort; schools, yamens, forts, rest-houses, temples, shops, private residences, inns, farms, caves, huts, and tents, have all served us for accommodation at different times, and the order in which they are quoted represents roughly their comparative merits. Starting at daybreak after a cup of tea or cocoa 484 we used usually to march for about three hours and then halt for an hour or two for a good square meal; in the meantime if the march was not too long the pack mules would travel right through, so that the baggage had arrived and was already unpacked by the time we got in in the early

484 afternoon. This is the height of luxury in travel in North Western China. Riding good ambling ponies we used to average four miles or more per hour on a good trail, and a day's journey of 80 li seemed nothing under these conditions. But a few really tiring marches (and this is one of them) stand out in my memory, when we had to cover a hundred li or more over rocky mountain paths where it might be necessary to walk half of the way; the hardest day of all was a march on the Kokonor border, when we started at 6 a.m. and got in at 9 p.m., crossing a pass over 13,000 feet high on the way.

487 133 Leaving Ch'iyi Chen the track runs down the valley towards the Yellow River for a few li and then strikes straight up the mountain side to the south to reach the pass (3600 feet). This ridge is the boundary between the districts of Yich'uan and Hanch'eng, which are both very extended ones. From the pass there is a steep drop into a gorge and then a climb over a loess spur to reach the hamlet of Tuch'uan lying in a narrow ravine. From here the trail strikes again up the mountain side to the south, crosses a pass (4100 feet), and descends along a loess ridge with finally a steep drop to reach the walled village of Wangfeng Ch'iao lying in the narrow valley of a stream flowing east. From Ch'iyi Chen to Wangfeng Ch'iao is the middle stage in the three days' march between Yich'uan and Hanch'eng, and though only called 60 li in length is a tiring day's work, consisting of one long scramble up and down the mountains. As this route slants across the ridges to the S.E. and approaches the Yellow River, the passes decrease in altitude and some loess begins to reappear. The mountains in this neighbourhood appear to be full of iron ore.

From Wangfeng Ch'iao the track ascends the mountain side to the south to reach a pass (3400 feet) in the last range which bars the way to the plains. From the previous passes there were extensive views across the cañon of the Yellow River to the mountains of Shansi, but the river itself remained invisible; from this ridge it is seen for the first time, emerging from the mountains at the mouth of the gorge known as Yümen K'ou. This is a very celebrated spot amongst the Chinese, since their annals record that the Emperor Yü (2000 B.C.) here cut a channel through the 173

mountains to drain off the great floods which at that time 173
submerged the whole of North West China, thus bringing
into existence the modern Yellow River and the fertile
deposits of *Huang T'u* (the "yellow earth," which we call
loess); perhaps an earthquake gave rise to this tradition.

From this last pass the track drops steeply into a gorge 487
which is followed for an hour's march to the S.E., and then,
crossing the spur which encloses the gorge on the south, 133
drops down into the loess plains on the right bank of the
Yellow River. From this point to Hanch'eng Hsien, a
distance of 40 li, the trail runs across an undulating plain,
which is not really a plain but the usual loess plateau, here
of moderate thickness, sloping down from the mountains to
the Yellow River, the latter flowing five to ten li away on
one's left. This plain between the foot hills and the river [361]
is one of the most fertile and densely populated regions
in the province, and is thickly dotted with farms, villages,
temples, tombs, and pagodas. It is always so in North
China, densely peopled fertile plains and barren empty
mountains side by side. The largest of the many villages
passed is Hsichuang, where there is a likin station to catch
the trade coming down from the North by the route we
had traversed; but its receipts must be small nowadays, for
not only not on this road, but at no time during our tour of
Northern Shensi, did we meet a single load of merchandize
or a single traveller of the better class, so utterly has all
trade and traffic in that region been destroyed by the
brigands. Finally there is a short steep descent to reach
the city of Hanch'eng, which lies surrounded by fields of
indigo in a basin in the loess plateau formed by the valley
of a stream flowing S.E.

Hanch'eng, a second class district city, is a large and 361
wealthy town, at least it appeared to us to be so, coming
from the poverty-stricken North. The district is one of the
most fertile in the province, and is noted for its wheat,
cotton, hemp, and indigo. The irrigated fields round the 241
city produce three crops in one summer, maize being sown
after a crop of wheat has been harvested, and indigo being
then transplanted in early June into the same field, the
indigo and the maize growing up together.

The most direct road from Hanch'eng to Hsian lies 487
133

487 through the cities of T'ungchou Fu and Weinan Hsien across the plains along the Yellow River, but we followed a 133 slightly longer route further north across the loess uplands *via* Hoyang, Ch'engch'eng, P'uch'eng, Fup'ing, and Sanyuan, a week's journey by a good and mostly level trail. The season of the year was now late June and the rains had not yet broken, so we expected a scorching hot journey across these plains; but fortunately we struck the season of high winds which blow for a few days before the rains break, and had quite a pleasant journey until the last day or two, when we were overtaken by the opening downpours of the rainy season and had a hard struggle to get across the waterlogged plain of the Wei River.

From Hanch'eng Hsien to Hoyang Hsien is a long march [491] called 95 li. The road, now a good cart track, leaves Hanch'eng by the South Gate, and crossing a fine stone bridge runs down the valley through indigo fields for 20 li, where it debouches on to the Yellow River at the township of Chihch'uan Chen, a prosperous little city with an important likin station tapping the trade with Shansi. This [361] place, like many other non-official townships we passed on the road to Hsian, is larger and wealthier than any district city we saw in Northern Shensi. At Chihch'uan the road leaves the Yellow River and climbs up on to the loess plateau some hundreds of feet above, across which it runs 388 south-west and west, past the townships of Pailiang Chen (in Hoyang district) and T'ungchia Chuang, a centre of the vegetable oil industry, and many smaller villages, for the rest of the way to Hoyang. This plateau is just like all the other loess uplands, an undulating wheat prairie intersected by rifts and valleys; and the passage of two of these cañons hundreds of feet deep makes the march a long and arduous one.

[361] Hoyang is a fairly large city, the centre of a first class district; but it is a poor-looking place inside, like most of these purely agricultural prairie towns, and is not to be compared with Hanch'eng, which probably does a good deal of trade with prosperous Shansi. It lies in a slight depression of the rolling loess uplands, now covered with short wheat stubble. Supplies of all kinds are abundant on this road, but game is scarce; though an occasional pheasant was to be seen in the bare fields.

From Hoyang to Ch'engch'eng, a short march of 45 li, 487
the trail runs west across the same undulating plains, 133
traversing two deep cañons *en route*. Ch'engch'eng, a [634]
second class district city, is a replica of Hoyang.

The next stage to P'uch'eng is a very long march,
called 105 li, probably over 30 miles, for the li are long on
these prairies. The trail runs south across the plain past 361
numerous hamlets, descending gradually, for three to four
hours' march, and then drops by easy gradients in the loess
terraces to the walled township of Yungfeng Chen, 50 li
from Ch'engch'eng, in the valley of the Lo River. These
little walled towns often have the characters for their names
inscribed over the gateway, like stations on a railway, a
custom which is most useful to the traveller, and which I
have not noticed elsewhere.

Five li west of Yungfeng the Lo River, at low water a 487
few feet deep and fifteen yards wide, and of the consistency [491]
of liquid mud, is crossed by a ferry. The Lo here flows
from north to south; on the right bank rises a loess bluff 133
a few hundred feet high, and on the left the open valley
some miles wide stretches up by easy slopes and low terraces
to the level of the plateau. From the ferry the trail ascends
the bluff constituting the edge of the tableland, and then
runs west across the usual undulating wheat prairies, dotted
with walled farms and villages, for the rest of the way to 361
P'uch'eng.

P'uch'eng lies in the open plain backed by low
mountains about ten miles to the north. It is a large and
important place, a first class district city and the centre of
a great wheat-growing region. Many prominent men in
Shensi have their homes in the district, which therefore, in
these days of home rule, exercises considerable influence in
the province. These large first class districts in the loess of
Central Shensi, such as P'uch'eng, Lint'ung, Weinan, and
Fup'ing, the very heart of ancient China, have always been
proverbial for their agricultural wealth, and to this day the
provincial Government subsists largely off their land tax [651]
revenues.

From P'uch'eng to Fup'ing, another long march of 95 487
li, the trail continues west across the same undulating
prairies past many villages including the township of 133

487 Hsingshih Chen, a busy place where much of the commerce of P'uch'eng district is carried on. Fup'ing, another important 133 first class district city, lies in a depression in the loess plain caused by the shallow valley of a stream which provides irrigated lands of the richest kind. We chanced to be travelling this trail at a time when political affairs were in a more than usually chaotic state and the authority of the officials more than usually relaxed, and we had been strongly advised not to follow this route owing to the alleged large and turbulent populations of P'uch'eng and Fup'ing, who are said to be noted for their independence and love of managing their own affairs (*P'u Fu jen to, pei hsing pu an*, as one member of our party kept repeating); but, as almost everywhere else on our travels, we found the people perfectly friendly.

From Fup'ing to Sanyuan should be an easy march of 60 li; but the rains had now suddenly broken and it was an arduous day ploughing through the loess mud, which has a peculiar slimy character of its own, rendering progress whether on foot or on horseback dreadfully slow. The trail runs S.W. for a few li across low-lying land, apparently the valley of the Yao Chou River, which was largely under [248] cotton, and then continues for 20 li across a wheat-growing plateau to the boundary of the two districts. Here there is a steep drop through a loess cutting into a level plain across which the track runs for the rest of the way to Sanyuan.

361 Sanyuan, the centre of a second class district, is one of the largest and most important cities in the province, though 438 this is not saying much. Commercially it is an annex to Hsian Fu, much of the commerce which really belongs to the latter being transacted here to avoid the official exactions of the provincial capital. For the same reason most of the trade to and from Kansu passes through Sanyuan. During recent years it has played an important part in the various rebellions and other political events which have so disturbed the province, and its trade has therefore been for the moment destroyed. The city lies on a level loess plain, and is bisected by a stream flowing in a deep rift, which is spanned by a fine stone bridge; the southern portion contains the shops and life of the place, the northern being mostly empty. Cart roads radiate in all directions across the plain.

797 thoroughly sound and sensible policy. The conversion of
the Chinese is a tough proposition; but there is a far tougher
one confronting the missionary in the North West, and
that is the conversion of the Mahomedans and Tibetans in
Kansu. The Chinese is apathetic towards Christianity, while
keeping an open mind towards any aspect of it which may
be turned to his material advantage. The Tibetan or
Mahomedan on the other hand is usually not at all apathetic,
but very actively hostile towards any attempt to convert him.

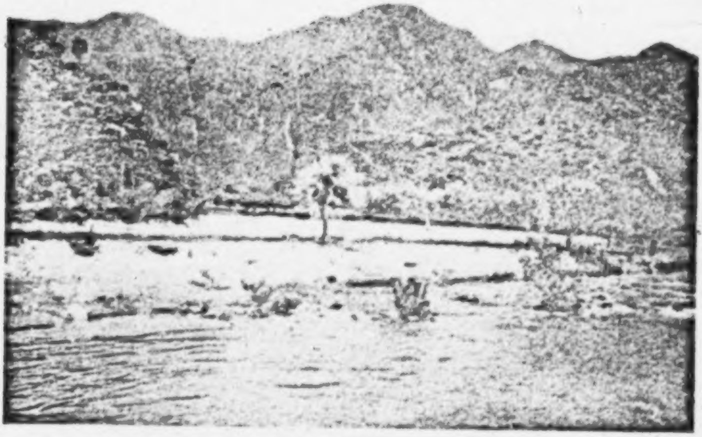
487 From Sanyuan to Hsian Fu is a day's march, called 90 li
by the Chinese owing to the passage of the two rivers which
133 occupies an hour or so, and is therefore considered the
equivalent of 10 li. For us it was a long slow march,
floundering through the mud in pouring rain. The road
[344] runs due south across the plain, the pagoda of the village
of Ch'ingyang T'a being a prominent landmark for the first
30 li. A few li beyond this village the Ching Ho is reached
[491] and crossed by a cart ferry, and another 15 li across a low
table-land of loess dotted with the curious tumuli, some
from fifty to one hundred feet high and said to be the tombs
of ancient kings, brings one to the Wei River, varying from
a few hundred yards to a mile in width according to the
248 season, and crossed by a cart ferry. These plains along the
Wei and Ching rivers are the great cotton-growing areas of
439 Central Shensi. Cotton has always been a staple crop of
the province, and is one of the principal exports. It is now
being grown more extensively than ever and is being bought
up for export by the Japanese. The soil and climate appear
well suited to its cultivation, and there seems to be no
reason why its quality should not be improved by scientific
methods, nor why there should not be a big cotton spinning
industry in Hsian and the neighbourhood. As it is the
Japanese buy the cotton, take it to Japan to spin, and then
return it to the Chinese in the form of yarn.

491 We found the Wei River in flood and had a hard time
crossing it. The ferry took us over the main stream, but two
branches in flood had to be forded with the water up to the
ponies' bellies and running like a mill race. One of the carts
accompanying us, containing the baggage of the soldiers,
apparently drove into a hole and disappeared except for its
hood; we were too much occupied at the time with our own

PLATE XX

• 133

SUMMIT OF CH'INLING PASS ON MAIN ROAD TO SZECHUAN



TUNG RIVER VALLEY NEAR FENGHSIEN IN S.W. SHENSI

[FACING P. 88]

000 Turkestan or Tibet, at any time during the past few
175 hundred years. Hsienyang is also famous as one of the old
capitals of China, having been the seat of no less a person
than the Emperor who designed the Great Wall, and who,
being annoyed by the supercilious conservatism of the
Chinese scholars of those days, buried several hundreds of
them alive, and burnt all their books; for which act his
name is execrated by the scholars of today.

487 Starting out from Hsienyang we left the high road to
Kansu, which we had followed two years previously, on
the right hand, and continued across the level plain to
Hsingp'ing Hsien, another short march of 50 li. This is a
second class district city lying on a wheat and cotton-growing
plain sloping from the north down towards the Wei
River.

The next stage to Wukung Hsien is a distance of 90 li,
764 still across the plain. Thirty li out, just beyond the village of
Mawei, the local magistrate who was accompanying us
175 suddenly dragged us off the road to visit a dilapidated little
temple in the fields, which turned out to be the tomb of a
notorious Imperial concubine known to every educated
Chinese as Yang Kuei-fei. She was strangled here by her
consort, the Emperor, to satisfy his troops in about 170 A.D.;
I forget the details of the story, which every Chinese knows.
There was nothing to be seen inside the temple except
the usual ancient individual busy taking rubbings of inscriptions.
Central Shensi is full of these objects of historical
interest, dating back sometimes two or three thousand
487 years. Wukung district is entered beyond the walled village
of Tungfufeng, which lies half-way, and the plain now begins
● 133 to rise imperceptibly and becomes the usual undulating loess
361 plateau; so that there is a sudden drop to reach the city of
Wukung Hsien lying in a valley a hundred feet or so below
the level of the loess. Three streams, from near Fenghsiang,
Linyu, and Yungshou, unite here to form a pea-soupy river
flowing south to join the Wei. Wukung, a second-class
district city, is quite a prosperous little place with busy
streets and well-stocked shops.

133 From Wukung the road climbs out of the valley and
runs across the loess uplands to the west. All along this
487 road the traveller is accompanied on his left hand by the

Ch'inling Shan, rising like a wall out of the plain to the 133
south of the Wei River, and affording fine views of its 487
culminating point the T'aipai Shan, snow-clad till midsummer (12,500 feet). The walled village of Hsinglin Chen is passed half-way out, and 15 li further on the valley of a stream from the north is crossed. Finally there is a drop to reach Fufeng Hsien, 60 li from Wukung, and a replica of the latter, lying in precisely the same sort of hollow below the level of the loess at the junction of two valleys from the north and west.

From Fufeng Hsien to Ch'ishan Hsien is another easy march of 60 li across the uplands, crossing two shallow ravines *en route*, the loess here not being of sufficient thickness to be fissured by the deep rifts and cañons found further north. Ch'ishan lies close under the mountains of the same name, with the loess plain sloping down to the Wei River to the south. The main road here continues west to Fenghsiang, but travellers bound for Szechuan like ourselves, and having no particular concern with the latter place, usually proceed direct to Paochi on the Wei River, a distance of 110 li, which can be covered in a long day's march. Ch'ishan, a second class district city, much resembles [361]
Wukung and Fufeng, and seems fairly prosperous for a city of Central Shensi.

The road now runs west and south-west across the loess uplands for about 50 li, and then descends by easy gradients for another 25 li to reach Titien, a village of inns on the Wei [485]
River, just beyond the confluence of the latter with the Ch'ien Shui from Ch'ienyang and Lungchou, the passage of which in a flooded state caused us some trouble. On this stretch of road we crossed our previous route from Mei Hsien to Fenghsiang Fu, thus affording an opportunity of checking the route survey, the results of which were not particularly encouraging; but as my instruments consisted of nothing more serious than a prismatic compass, with which I kept up a route survey throughout our journeys, this was perhaps not surprising. From Titien to Paochi the road runs west between the Wei River on the left hand and a high loess bluff on the right. The actual valley plain of the Wei is here quite narrow, as the land on the further bank rises almost immediately to the grim-looking barrier of the

● 133 Ch'inling Shan; above the loess bluff on the right hand,
487 however, the undulating uplands stretch northwards to
beyond Fenghsiang Fu till they meet the Ch'ishan range; west of Paochi these latter mountains converge on to the Ch'inling Shan, and bring the loess plains of the Wei basin altogether to an end, in much the same way as the cigar-shaped Hanchung plain ends beyond Mien Hsien.

[361] Paochi, a first class district city, lies on rising ground
behind the Wei River with its northern wall climbing the
[348] loess bluff. It is quite a big place and evidently handles a
considerable trade with Szechuan and Kansu. The in-
[575] habitants have the reputation of being turbulent and the
Ko Lao Hui is very strong in the neighbourhood.

The western districts of Central Shensi through which
231 we had been passing are the breeding grounds for the mules
for which Shensi is famous, and which are exported in considerable quantities to the eastern provinces. At the time of our passage the wheat harvest was just over and the fields were being ploughed for the next crop. The endless plains of loess were everywhere dotted with ploughing teams consisting of mules and pony mares, the latter in almost every instance being followed by a mule foal. These Shensi and Kansu mules are the best in China, probably in the world. Fine upstanding animals, they carry loads of over 200 Chinese pounds (say 300 English pounds), travelling stages of 20 miles or more per day for weeks and months on end; the Szechuan and Yunnan mules, though good animals too, carry less than half as much. The secret of mule management in Shensi and Kansu is the feeding, and they are given an enormous amount of grain, which they spend most of the night in eating; a midday feed is not considered necessary, or even advisable, except on a very long march. The jack donkeys by which these fine mules are bred are large upstanding animals, the size of a pony, and very different from the ordinary pack-carrying donkey of North China.

133 From Paochi to Feng Hsien is a distance of 210 li and
487 includes the passage of the Ch'inling Shan. There are
[485] numerous inns *en route*, so that it can be divided into two,
three, or more stages as the traveller prefers. Leaving Paochi the Wei River, at high water several hundred yards

wide and full of sand-banks, is crossed by a ferry, and the trail then plunges into the Ch'inling Shan by a valley which soon becomes a gorge hemmed in by precipitous mountains. The change from the bare loess plains and hills to these rocky, jungle-clad mountains is strikingly sudden. The road is a well-graded mule path, but very rough going, being irregularly paved with cobbles and boulders. Fifty li from Paochi we reached the hamlet of Kuanyint'ang, nestling underneath a wooded cliff, where we passed the night. Here we were met by some of our old acquaintances from the excellent Northern brigade garrisoning Hanchung and the Han valley, in whose care we were to be till reaching the Szechuan border, and said farewell for good to the picturesque ex-brigands who had formed our escort and who had looked after us so well during our tour of the Northern districts; though their past did not always bear looking into they were the best of fellows.

Crossing the loess of Central Shensi the heat had been terrific, but from now on for the next few days, till we debouched from the mountains on to the Hanchung plain at Paoch'eng, it was delightfully cool though rather rainy. Fifteen li above Kuanyint'ang the gorge ends in the pass over the main Ch'inling range (about 5100 feet); the ascent is easy, the valley leading practically up to the summit. The railway will probably have to cross this pass, but as there is a rise of some 3000 feet from Paochi, there will have to be a pretty stiff gradient or a long tunnel. The gorge resembles the approach to the Nank'ou Pass on the Kalgan railway north of Peking, but is probably more difficult to negotiate.

From the pass there is a drop of a few hundred feet into an open cultivated valley, that of the Tung Ho, flowing down from the south-western slopes of T'aipai Shan. This stream forms one of the headwaters of the great Szechuan River, the Chialing Chiang, which joins the Yangtzu at Chungking, so that though one has crossed the main range of the Ch'inling Shan and the Yangtzu Yellow River divide, one is not yet in the basin of the Han. The easiest line for the railway from here will probably be found to lie down the Chialing Chiang into Szechuan (though the latter flows mostly through precipitous gorges), thus not entering the

487 101 133 Han valley like the main road does. The trail runs S.W. down this valley through fields of wheat and maize past several villages, such as Huangniu P'u, Hunghua P'u, and Ts'aoliang Yi, in any of which a halt can be made. The Tung Ho is here, in summer, already a fair-sized mountain torrent, only just fordable, and is joined by several tributary torrents from the wooded mountains on either side. Between Ts'aoliang Yi and Feng Hsien, a distance of 70 li, the river runs mostly through winding gorges, with the path, a good mule-trail, ledged in the cliff over the water.

[361] Feng Hsien, a third class district city, consists of one long street with a certain amount of life in it owing to the traffic on the high road. It lies hidden by poplars in a [563] pretty cultivated valley. The confines of Kansu are not far off and there seem to be a good many Kansu Mahomedans in the district. There is plenty of loess in the Tung valley round Feng Hsien, though it is on the southern side of the Ch'inling watershed. There is not, so far as I know, any loess in the Han basin, but it may be noticed in the valleys of the headwater streams of the Chialing Chiang both here and above Li Hsien in Kansu, and doubtless in other places too. The presence of this loess south of the watershed range, which further east forms a barrier to and is the southern limit of this formation, seems to require a good deal of explaining; if the loess was deposited by water the fact that the relative height of the watershed above the ground north of it is so much lower in the west than in the east, may perhaps account for it.

484 We met a good deal of traffic on this road, in contrast to the empty trails of Northern Shensi, consisting of strings of coolies and pack-mules carrying tea, umbrellas, iron, etc., from Szechuan and the Han valley to Hsian and the towns of the Wei basin; when we got into Szechuan the contrast was still more marked, and the traffic was practically an endless procession of carrying coolies going both ways; and this in spite of the fact that Northern Szechuan abounds in brigands too, but apparently of a less formidable character than those of Northern Shensi.

487 133 At Feng Hsien the trail leaves the Tung River, which flows S.W. into Kansu, and turns up the mountain side to the south, reaching the pass, the Feng Ling (6300 feet) after

a two to three hours' climb. My heights for these passes, obtained, like all the rest on my maps, from aneroid observations compared with an occasional boiling-point thermometer reading, are lower than those usually given; but in the most modern maps of China Hanchung is assigned a height of 2000 feet, which is probably 500 feet too much, and in one good map Mien Hsien further west is given as 1800 feet odd, thus causing the Han River to flow up hill between the two cities; so that there is room for argument on the subject all round. From the Feng Ling there is a fine view to the west over the cultivated slopes of the Tung valley backed by higher mountains on the Kansu border, and to the south-east over the wooded limestone ranges of the Ch'inling Shan. After running along the mountain side for a short distance the path drops steeply into a gorge which leads down to the village of Sanch'a Yi, an old posting stage, lying at the confluence of two streams some 2000 feet below the pass and 50 li from Feng Hsien, and following down this valley, where rice fields and some loess re-appear, for another hour's march, reaches the village of Liufeng Kuan. This stream is a tributary of the Tung Ho, and one is still on the head-waters of the Chialing Chiang. Liufeng Kuan is the head-quarters of a deputy magistrate under Feng Hsien, and we passed the night comfortably in his yamen.

The trail, which has hitherto run S.W. all the way from the Wei valley, now turns S.E. up a winding ravine, leading into the heart of the Ch'inling Shan, the village of Nanhsing in Liupa district being reached after about two hours' march. This place is half-way between Feng Hsien and Liupa T'ing, and provides accommodation for the traveller who wants to cover the distance (180 li) in two stages. Four hours' march up the valley, which contracts to a gorge hemmed in by densely-wooded mountains, brings one to the pass, the Ch'aikuan Ling (5500 feet), which leads over the divide into the Han basin. The Ch'inling ranges are seen at their best round the Ch'aikuan Ling, where the rocky precipices and densely-wooded mountain slopes, clear mountain torrents, and narrow fertile ravines combine to form a landscape of great beauty. Though the ascent to the pass is by easy gradients the descent is precipitous, and

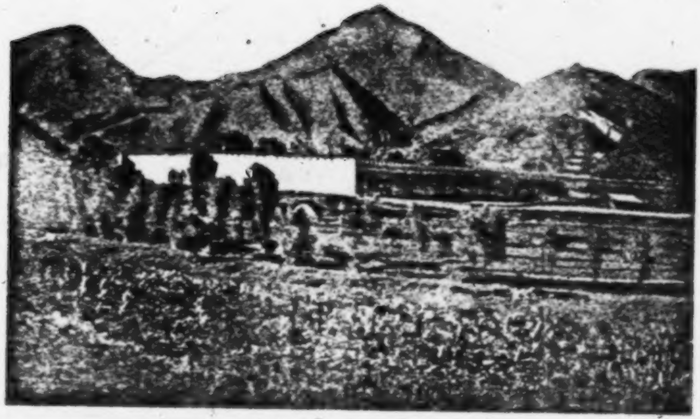
487 133 a railway following the main road (which could avoid the more formidable Feng Ling by a détour down the Tung valley and up the tributary to Liufeng Kuan) would presumably require a long tunnel, and would meet with many more difficulties following down the gorge to Liupa [346] and beyond. Some five li below the pass lies the Changliang Miao, beautifully situated at the junction of two wooded ravines, where we passed the night. This is one of the finest temples in China, built, I believe, in the Han Dynasty, and is well known amongst the Chinese; one would have liked to remain there a week.

From Changliang Miao (also known as Miao T'aitzu) 361 the path runs down a winding gorge for the rest of the way to Liupa, a distance of 40 li. The latter, formerly a T'ing, and now a third class Hsien, is a picturesque little place, almost filling a narrow valley hidden away on the southern slopes of the Ch'inling Shan, its situation exactly resembling that of Huayang further east on the road to Fop'ing. The city is practically empty, the life of the place being concentrated in a suburb outside the south-east wall.

From Liupa to Paoch'eng in the Han valley plain is a 487 133 distance of about 180 li, which can be covered in two long marches, the trail running all the way down a winding gorge, occasionally cutting off corners by crossing low spurs. The going is most of the way very rough and rocky. Some three hours' march below Liupa the stream joins another much larger one flowing down from the southern slopes of T'aipai Shan, called the Pao Shui; up this stream lies a very rough trail to Mei Hsien in the Wei valley, crossing a shoulder of T'aipai Shan by a high pass. Several villages living on the traffic of this great highway are passed in the gorge, T'iehfotien, Matao Yi (the half-way stage), Erhshihli P'u, and Ch'ingch'iao Yi, in any of which a halt can be made. As one approaches the plain, the gorge, instead of opening out, becomes narrower, the cliffs more precipitous, and the track more rocky; and just when the weary traveller is beginning to look forward to the end of the stage, the gorge becomes impassable, and the path ascends for several hundreds of feet by flights of irregular stone steps, winds round the top of a spur, the Chit'ou Kuan, and drops straight down on to Paoch'eng Hsien, lying on the edge of the Han valley plain.

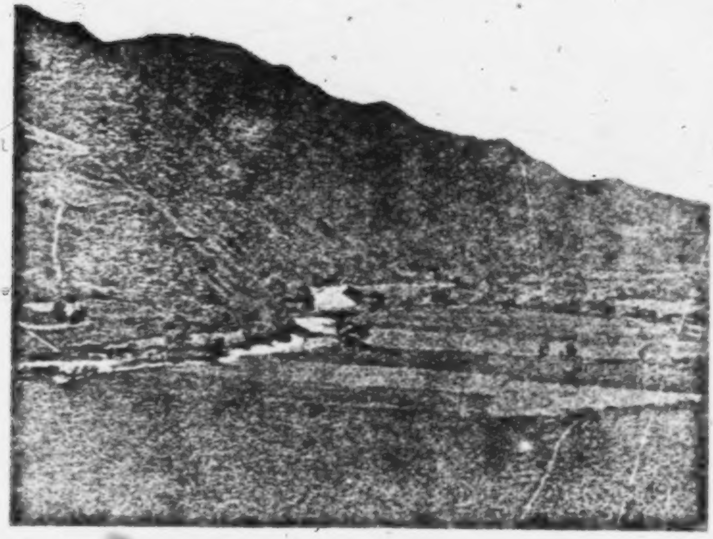
PLATE XXI

361



CITY OF LIUPA T'ING, S.W. SHENSI

133



VALLEY IN S.W. SHENSI NEAR SZECHUAN BORDER

[FACING P. 96]

505 hands of Peking and the Northern Generals, when it was
over; and the power of the North to retain in its hands the
nominal government of the country, though it has so far
proved itself incapable of subduing the South and the South
West in a military sense, remains the only decisive and
stable factor in the situation.

487 From Paoch'eng to Mien Hsien is a distance of 90 li by
a good road up the Han valley plain, dotted with many
491 prosperous hamlets and villages; at the time of our passage
it was largely under cotton where the land did not permit
of irrigation for rice. Fifty li out a tributary river from the
north is crossed by an iron chain suspension bridge and the
large village of Huangsha P'u on the banks of the Han is
reached. Further on another river from the mountains to
the north has to be crossed by a ford, and though it was now
the rainy season, the magistrate of Mien Hsien, who was
travelling with us, assured us that its passage would present
no difficulties, as he had crossed it coming to meet us on
the previous day. But it had been raining all day, and
rivers in China are wont to increase and decrease in size
with extraordinary rapidity. When we reached this particular
stream we found, instead of the ford a foot deep, which we
had been led to expect, a roaring torrent deeper than a
man's height. A dilapidated little temple was discovered
near by in which we made shift to camp for the night while
waiting for the rain to stop and the waters to subside; but
before darkness fell the magistrate's efforts resulted in a
boat being secured, and we packed up again and started off
to try and reach Mien Hsien that night. The passage of the
river was a long business, but everything was got over in
the end, and we continued our journey in the dark. The
path seemed to run more or less along the banks of the Han,
into which I nearly rode on more than one occasion, past
438 the township of Ts'aiyuan Chen, which is a larger place
than the district city and evidently a trading centre connected
with the junk traffic on the river; and ten li further
on the East Gate of Mien Hsien is reached, where we
arrived about nine in the evening, wet through and tired out.

[234] Mien Hsien, a second class district city, lies at the
extreme western end of the cigar-shaped Hanchung plain,
● 133 which extends eastwards to below Yang Hsien. The out-
487

lying ranges of the Ch'inling Shan here meet the mountains 133 which separate the Han valley from Szechuan and bring 487 the plain abruptly to an end. There is some gold in the sands of the Han, as in almost all the rivers of Western China; [135] but whereas the sources of many of the latter, and therefore the hills from which the gold comes, lie far off on the Tibetan plateau, those of the Han lie close at hand in these mountains, which ought, therefore, to be worth prospecting; they are said to be rich in other minerals as well.

The next regular stage on this road is one of 90 li to the village of Tai-an Yi. The trail runs west up the Han River, which here flows in a perfectly straight gorge, for 45 li to the village of Hsinwan P'u, which is of interest as the head of navigation for small boats; the Han is thus navigable for practically its entire course. The porterage west to the [484] Chialing Chiang, which is also navigable, is only two or three marches over a low divide to the village of Yangp'ing Kuan, and the road is naturally a busy one, and carries much traffic between Shensi, Szechuan, and Kansu. At Hsinwan P'u the path leaves the Han for a time, passing through broken hills cultivated with maize and rice and dotted with the useful wood-oil tree, eventually returning to the river and following up its valley to reach Tai-an Yi, an old posting stage. The Han is remarkable for the suddenness with which it springs into existence as a navigable river. At Mien Hsien in the summer it is already a large stream; while one march further west, at Tai-an, it is a mere streamlet, and one is within a few hours of its source. At the other extreme are the two other chief rivers of Shensi, the Wei and the Lo, which, rising one in Central Kansu and the other on the Ordos border, are only navigable for short distances above their confluences with the Yellow River near T'ungkuan. The contrast is typical of China north and south of the Ch'inling Shan.

Above Tai-an the path turns south up the head-waters of the Han, now only a few inches deep. Beyond the hamlet of K'uanch'uan P'u, 30 li out, the valley narrows to a ravine, which leads an hour's march further on to a pass, the Wuting Kuan (about 4000 feet); whence the trail descends through a ravine in the jungle-clad mountains, past the hamlet of Tishih P'u, till it debouches into a larger

133 487 valley and reaches the town of Ningchiang, formerly a Chou, and now a second class Hsien.

Ningchiang is a picturesque little place lying surrounded by rice fields in an isolated valley in the mountains near the Szechuan border. It is still in the basin of the Han, and a railway from Hanchung along the line of the main road into Szechuan could avoid the Wuting Pass by following the valley of its stream. There would be greater difficulties in crossing the divide into Szechuan, though these mountains are not in this neighbourhood to be compared with the Ch'inling Shan as a barrier to communication, being only about half as high.

From Ningchiang to Kuangyuan in Szechuan is a distance of 230 li, which is usually divided into three stages, 70 li to Chaoch'ang Pa, 70 li to Ch'aot'ien Chen, and 90 li to Kuangyuan; but as elsewhere along this road villages are numerous, and the traveller can make his own stages. Leaving Ningchiang the trail runs up the valley to the S.W., which ends 40 li out in an easy pass (3300 feet), being the divide between the Han and Chialing basins. From the pass there is a drop of a few hundred feet into a little rice valley enclosed by wooded hills which leads down to the village of Huangpa Yi, 50 li from Ningchiang. The path here leaves the stream, which flows south, and, crossing a spur, drops steeply into the gorge of a stream flowing down from a high range to the west. At the point where this gorge debouches on to a larger valley, 15 li from Huangpa Yi, there is a barrier wall and a gate, indicating the Shensi-Szechuan frontier, and a few li further down this valley the village of Chaoch'ang Pa is reached. Here we parted from our friends the Shensi officials, who had looked after us so well for the past four months, and with whom we had undergone many a hardship. One of these gentlemen, who acted as business manager of the expedition and who throughout displayed great powers of organization as well as capacity for enduring personal discomforts and hardships, is shown in the accompanying photograph trying a little Szechuan stallion[1]. Having served as district magistrate for

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231 [1] These Szechuan ponies though very small are exceedingly well built and show a great deal of breeding; they are useful on the paved paths and stone steps of Szechuan to which they are accustomed, and which are fatal to the larger and heavier built ponies of Kansu and Mongolia.

many years in various parts of Shensi, his local knowledge and experience were of the greatest assistance, while his talents ranged from shooting mountain goat in the Ch'inling Shan to the writing of Chinese poetry. 133 487

Leaving Chaoch'ang Pa a spur is crossed to avoid a bend in the stream, and the path then runs down the open valley, good going at last after days of rocky scrambles, for 40 li to the village of Shenhsuan Yi, another old posting station and the head-quarters of a deputy magistrate under Kuangyuan. A little further on down the valley a curious natural phenomenon occurs, the valley coming suddenly to an end, and the stream flowing under a mountain spur through a tunnel in the limestone, to reappear in a deep gorge half a mile further on. The path ascends this spur by flights of stone steps, and then, crossing to the other side of the valley, runs along the mountain side several hundreds of feet above the gorge of the stream for the rest of the way to Ch'aot'ien Chen, a large village lying on the banks of the Chialing Chiang. The latter flows swiftly in a deep gorge in the mountains; and on the practicability of this gorge for railway construction appears to depend the possibility of finding a comparatively easy route for a railway into Szechuan from the Wei valley; for it is by this gorge that the Chialing Chiang pierces all those intricate ranges on the borders of Shensi, Kansu, and Szechuan, containing the head-waters of the Han, which are connected with the Ch'inling Shan in such a manner as to render their passage by a railway elsewhere extremely difficult.

From Ch'aot'ien to Kuangyuan, a distance of 90 li, the path is ledged in one of the cliffs of the gorges of the Chialing Chiang; but it is possible to do this stage by water, and as the magistrate had kindly prepared some boats, we were only too glad at this stage of our long journey to avail ourselves of so restful a method of travel. The river was high and the current very rapid, so that we covered the distance in less than four hours, instead of the nine or ten it would have taken us by road.

Kuangyuan, a second class district city, lies in a small plain formed by the junction of a tributary with the Chialing Chiang. It is considered an important place owing to its position at the point where the big road from the north 133 487 361

[361] debouches into Szechuan and where another road emerges
487 from Kansu *via* P'ik'ou. Being a mountainous border
district it is full of brigands, who do not, however, seem so
133 formidable or so destructive to trade as their colleagues in
Northern Shensi; at any rate much traffic continues on the
big road.

We were now at the end of July, and as we emerged from the higher mountains of Shensi into Szechuan the
[136] heat became daily more terrific. Mosquitoes too, which are not noticeable in Kansu at all owing to the elevation, and which only begin to be bad in Shensi towards the autumn, became daily more voracious.

From Kuangyuan to Chaohua is a short march of 55 li. down the left bank of the Chialing Chiang, which here winds a good deal between more open mountain slopes. The
[491] river is crossed by a ferry to reach Chaohua, a small third class district city, built on a point of land at the confluence of the Chialing Chiang and a large tributary called the Pai Ho from Kansu. These rivers have cut deep narrow valleys in the precipitous mountains, which seem to run in all directions.

Leaving Chaohua the road climbs to the top of a ridge between the two rivers and continues along the summit in a westerly direction for 40 li with finally a descent to the village of Tashumu, whence it ascends another ridge leading S.W. The trail is here a good paved path, ascending and descending where necessary by flights of stone steps, and the march along the summits of the ridges affords a series of fine views over the surrounding mountains. Seventy li from Chaohua the path drops steeply into the gorge of a stream flowing north, up which it continues for another hour, passing through a gate in a remarkable defile under steep precipices of conglomerate rock, to reach the large
[361] village of Chienmen Kuan, the seat of a deputy magistrate under Chien Chou.

On the next day's march the path follows up the valley for a short distance, and then climbs again on to a ridge which leads in a south-westerly direction. The paved path is much of the way bordered by venerable trees hundreds of years old, whose welcome shade accompanies one at intervals right through these mountains for several days' march. The views from the ridge are again extensive. On the right hand lies the peculiar range of mountains trending from S.W. to N.E. which was crossed on the preceding day by the defile of Chienmen Kuan; on their southern face these mountains have an easy slope, but on the northern side fall away in rock precipices, giving the impression of having been tossed up by some internal convulsion. This formation extends as far as one can see in either direction, and may also be noted in the ranges south of Ningchiang. On the left hand lies the much broken hill country of soft red sandstone, sometimes called the red basin of Szechuan, into which the defile of Chienmen Kuan gives access from the N.W. Beyond the village of Hanyang P'u, 25 li out, there is a descent and then an ascent on to another ridge, which is followed southwards until it ends with a steep drop to the city of Chien Chou, now called Chienko Hsien, a picturesque little place lying at the bottom of the narrow valley of the Chien Shui, a tributary of the Chialing Chiang, 65 li from Chienmen Kuan. The high ranges on one's right now bear away to the west, and the mountains become lower and flatter; but in this part of Szechuan, as elsewhere outside of the Chengtu plain, there is scarcely any level ground to be seen.

From Chien Chou to the next district city, Tzutung Hsien, is two stages of 80 li each, through complicated hill country intersected by a maze of little narrow valleys. The road is the same paved path shaded with ancient trees, and shows great engineering skill on the part of its designers, whoever they may have been, in the manner it threads its way through this difficult country. It is perhaps the most famous road in China, and it certainly deserves such a reputation. It was probably constructed by the Emperor Shih Huangti about B.C. 200 to facilitate his conquest of what is now Szechuan. Climbing out of the valley of the Chien Shui and crossing a ridge, the trail drops into a gorge, only to climb out again immediately, and winding round a spur S. and S.W., descends to the village of Liukou, 40 li from Chien Chou, at the junction of two streams flowing south. Here it ascends again, and winding along a ridge for 20 li reaches the head of a valley, crosses the divide, and follows down another ridge, with finally a steep drop to

487 133 reach the large village of Wulien Yi, the end of the stage, lying at the junction of two valleys. From Wulien Yi there is a gradual ascent again until the top of another ridge is reached, along which the road winds, past the half-way village of Shangting P'u, and a fine temple in a grove of trees called Ta Miao, until it descends by a long easy gradient to Tzutung Hsien, lying in a rather more open valley sloping S.W. The hills, which grow steadily less formidable as one proceeds south on this road, are now quite low, and the mountains to the N.W. are almost out of sight.

The red basin of Szechuan appears to be an old plateau of red sandstone worn down by the action of water into a maze of hills and valleys in the same way as the loess. This formation is, however, by no means confined to Szechuan, for a vast extent of country, stretching all the way from Honan through Southern Shensi and Kansu to Hsining and the Kokonor, is composed of the same red sandstone, which in the west everywhere forms the southern limit to the loess.

At Tzutung we encountered the old joke of the North Gate closed to keep the rain out and had considerable difficulty in apprising the magistrate of our arrival and effecting an entrance.

Crossing the river outside Tzutung by a fine stone bridge, over which three motor cars might have been driven abreast, though the paved road leading to and from it is only a couple of feet wide, the trail winds westwards through the cultivated red hills to the township of Weich'eng, the end of the stage of 60 li; and on the following day continues through the same country, winding through the hills and following along undulating ridges for 65 li, to reach Mien Chou, now called Mienyang Hsien, a large and crowded first-class district city on the Fu River.

487 133 361 We were now practically out of the mountains and not far from the northern end of the Chengtu plain. From Mien Chou the road runs through low hills for 90 li to reach Lochiang Hsien, whence it descends to Têyang Hsien on the plain, and continues through Han Chou and Hsintu Hsien to Chengtu. These district cities, Lochiang, Têyang, Han Chou, and Hsintu are all rich and populous centres, the like of which are not to be found in the whole of Shensi

and Kansu, situated short marches of 50 li one from the 487 other. The Chengtu plain, notoriously one of the most 133 ● fertile and thickly populated regions in the world, was one 361 vast rice field, the grain nearly ripe, and promising, as usual, an enormous harvest. The most lucrative posts in the whole territorial administrative system of China are said to be the district magistracies on the Chengtu plain in Szechuan and in parts of Kuangtung, which are alleged to be more desirable from a monetary point of view than a Taoyinship.

Having left Chengtu five or six years previously shortly 361 after it had been looted and partly burned during the 669 troubles following on the Revolution of 1911, we now returned to find it once more in ruins, with street after street of wealthy shops and residences burnt down to heaps of rubble as the result of recent street-fighting between the Szechuanese and the Yunnan and Kueichou troops. Chengtu is incomparably the finest, richest, and most populous native city I know of in China, but it has known but little peace since the Revolution. Szechuan, the most 0-00 fertile and thickly populated province in the Republic, lies in an unfortunate position between the North and the South, and has frequently been the bone of contention between the respective protagonists, the Peking Government and the Yunnanese, during the long drawn out and indecisive struggle of recent years. The Szechuanese themselves incline naturally towards the South and their fair province is in every respect a portion of the South-West; but the Yangtzu waterway and the overland road from Shensi render them very liable to invasion by the Northerners. Further the abundance of labour, rice, and all kinds of supplies make the province a most suitable battle ground, where both Yunnanese and Northerners can practise the latest Japanese manœuvres and test their newest foreign machine guns at a minimum cost to themselves. The Szechuanese are not a warlike race, and have not in the past played an important part in these civil wars; though recently signs have not been wanting that they propose to make a change in this respect in the future. As regards numbers they are in a position to swamp all the rest, while they also have the great advantage of a modern arsenal at Chengtu.

The Yunnanese have played a very large part in the

2: Teichman G-5 (1919) 1921 AF13 Northwest China AF13

CHAPTER VIII

FROM HSIAN FU IN SHENSI TO LANCHOU FU IN KANSU BY THE GREAT WEST ROAD

The Great West Road—Hsienyang—Lich'uan—Ch'ienchou—Yungshou—Pinchou—Ch'angwu—Kansu border—Chingchou—P'ingliang—Kansu Mahomedans—Wat'ing—The late General T'ung Fu-hsiang—The Liupan Shan—Lungte—Chingning—Rest-houses and inns—Brackish water—Trail of desolation left by Mahomedan campaigns—Huining—Disadvantages of being a magistrate on the high road—Beacon towers—Anting—Kan'tsao Tien—Lanchou—Kansu climate—Wool factory—The Governor of Kansu—The C.P.O.—Missionaries—Recent events in Kansu.

From Hsian Fu in Shensi to Lanchou Fu in Kansu by 133
the Great West Road is a distance of about 1400 li (say 487
425 miles), which is covered in eighteen to twenty days. If the road from Hsian to Chengtu and Lassa be considered the most important overland route in China, this one, from Hsian to Lanchou and Kashgar, has every claim to rank next. Unlike the former, which is only a mule trail, it is a cart track all the way. Passing from the coast into the heart of North-Western China through a natural gap in the mountains formed by the valley of the Wei River, it continues into Central Asia along the narrow strip of fertile country occupied by the Chinese between the mountains of Northern Tibet and the deserts of Mongolia. It is both one of the longest and most ancient highways in the world.

The first stage, a short one of 50 li across the plain to Hsienyang Hsien, crossing the Wei River by a cart ferry [491]
just before getting in, is the same as the first march on the Chengtu road. Outside Hsienyang the Szechuan and Kansu roads bifurcate, the latter leading north-west across the undulating loess plain for 70 li to Lich'uan Hsien, whence it continues for another short march of 40 li across similar country, ascending gradually, to Ch'ien Chou. During the 241
month of May these plains are covered as far as the eye can reach with healthy-looking crops of wheat and lucerne; the latter, a most useful crop in Western Shensi and Eastern Kansu, is used for fodder; in the Han valley, however, a [246]

[p.105]

241 sort of veitch or lucerne is grown in the dry rice fields in the winter and ploughed into the ground at the time of the spring flooding as manure for the rice crop.

487 133 Ch'ien Chou lies near the north-western edge of the Wei valley plains, and the road now ascends steadily over loess hills for 90 li to Yungshou Hsien, lying just under the summit of a loess clad range which here bars the way to the west. The corn fields in the neighbourhood were full of pheasants, though there was little or no cover apart from the standing crops. The times being at the moment fairly peaceful, we met a constant stream of the large carts which ply on this road, one animal in the shafts and three in front, mostly laden with the famous Lanchou water pipe tobacco, which is exported from Kansu to all parts of China. Leaving Yungshou, half an hour's walk uphill brings one to the top of the ridge (4500 feet), whence there is a steep descent into a stony valley leading down to a hamlet half-way to Pin Chou. Here the road ascends again through the loess to a plateau intersected by ravines, down one of which it descends [361] steeply to reach the valley of the Ching Ho and the district city of Pin Chou, 70 li from Yungshou.

The Ching River is here a shallow mountain stream and quite different to the torrent of liquid mud met with lower down; apparently it assumes the latter character after its confluence with the Huan Ho, which flows down from the loess of N.E. Kansu. The road runs up the cultivated valley of the Ching Ho, here about a mile wide and bounded by cliffs of loess and sandstone dotted with caves. Twenty li out [346] the temple of Tafo Ssu is passed on the left hand, where a number of cave temples have been cut out of the rock in one of which there is a huge figure of Buddha. Two hours' march further on the road leaves the valley and climbs up on to the loess plateau, across which it runs for the rest of the way to Ch'angwu Hsien, a little city floating in a sea of wheat, 80 li from Pin Chou.

From Ch'angwu Hsien to Ching Chou is a long day's march called 100 li, the Kansu border being crossed at a village 30 li out. The road runs across the plateau, winding to and fro to avoid the cracks and fissures in the loess, the beginnings of ravines, cañons and valleys. It is lined with trees much of the way, and often these are seen to lead to the edge of a precipitous cañon, which has engulfed the 487 road during recent years, and [illegible] continue again on the further side, while the track now in [illegible] winds round the head of /33 the ravine. All through the loess country of Shensi and Kansu it is the same story, the track winding about to avoid the rifts, which are ever widening and working backwards by the collapse of their vertical walls. We were met on the provincial border by some Kansu officials and a couple of dozen Mahomedan braves, picturesque looking warriors mounted on handsome Kansu ponies, from whose appearance it was evident we were entering a new country. All [492] Chinese in the North can ride after a fashion; but a Kansu Mahomedan, a Mongol, or a Tibetan sits his pony as though born to the saddle. Thus escorted we dropped by a long descent of ten li through a gully in the loess to Ching Chou (now Chingch'uan Hsien), and found ourselves once more in the valley of the Ching Ho.

From Ching Chou to P'ingliang Fu is a distance of 130 li, which can be divided into two marches by halting at the village of Paishui Yi, 75 li out. The road, a broad tree-lined highway, runs up the valley of the Ching Ho, which is well cultivated and populated. The trees along this road, which extend on and off all the way from Hsian to Lanchou, are said to have been planted by the order of the great General Tso, the conqueror of the Mahomedans, and if so, all travellers in summer time have reason to be thankful to him for the welcome shade they afford. At Paishui Yi we 634 were met by the P'ingliang magistrate, one of the very best district officers we came across in all our journeys, who [691] proceeded that same evening to take advantage of his presence in the village to try a case in the courtyard of the rest-house in which we were stopping; no red tape or ceremony of any kind, but a quick, straightforward hearing. Kansu is an old-fashioned and conservative province, and at the time of our visit was jogging along in much the same way as under the Manchus, without having adopted many of the new methods of the Republic. This magistrate was a regular territorial official *de carrière*, the son of an official, and, though still quite young, had served for some years as a magistrate under the previous regime. Consequently he was thoroughly conversant with his work, and compared and Haich'eng to Chinchi (Ningling) and Ninghsia. The 563 Chinese consider those in the Southern area, who are of more recent Turki origin, to be the more dangerous and fanatical today. In a secluded valley near P'ingliang resides 792 a sort of Mahomedan saint, who has great influence not only in Kansu but also in Yunnan, and who undoubtedly commands the services of thousands, or perhaps tens of thousands, of armed Mahomedans; he is not one of the regular Moslem leaders, who are referred to in later chapters; and there seems to be some sort of mystery about him, which it was not our business to enquire into.

The next stage from P'ingliang is one of 90 li to Wat'ing, 487 a walled fort and posting stage at the foot of the Liupan 133 pass. The road runs up the valley, which beyond a half-way village with inns contracts to a gorge, scrub-covered mountains of shale and sandstone taking the place of the cultivated loess hills. Pheasants were thick here, and so tame that one had to throw stones at them to make them fly. Wat'ing is rather an important point as the roads to Lanchou and Ninghsia here bifurcate (the latter *via* Kuyuan). We were met here by the magistrate of Kuyuan and also by a representative of the family of the late General T'ung Fu-hsiang, whose ancestral seat is in the neighbourhood. I have been told on more than one occasion by Chinese that T'ung Fu-hsiang was not a Mahomedan at all, but a Chinese General commanding Moslem troops; perhaps he was considered a Chinese because he fought against the Mahomedans in the great rebellion. The following is a sketch of the career of this celebrated individual, who came into contact with foreigners by leading his Mahomedan troops to the attacks on the Legations in Peking in 1900.

T'ung Fu-hsiang was a native of Kuyuan in Eastern 669 Kansu. In the big rebellion of 1864–1873 he figured 563 prominently as a military chief on the Chinese side under General Tso, and it was he who captured the rebel stronghold of Chinchi on the Yellow River near Ninghsia, an event which was the turning-point in the campaign. This was the foundation of his fortunes, as he was enriched with the confiscated estates of rebels, and from that time on counted as one of the most prominent and influential leaders in Kansu. Subsequently he fought in Central Asia against

669 Yakub Beg. In 1895 he had risen to be commander-in-chief of the Kansu forces and despatched troops to aid in 563 the suppression of the Mahomedan rebellion near Sining in that year. In 1900 he commanded an army of Kansu braves in the attacks on the Legations, and subsequently arranged for the safety of the Imperial Court during its flight to Hsian Fu. Being proscribed by the Foreign Powers after the collapse of the Boxer movement he was cashiered and sent back to Kansu in disgrace, where he resided on his large estates in some state till his death about ten years ago. His rôle was loyalty to the Manchus through thick and thin, and his example in this respect has been followed more recently by the other Mahomedan leaders, who were ready to remain faithful to the cause of the fallen dynasty even after the abdication in 1912. Had Yuan Shih-k'ai not been at the head of affairs then, and had T'ung Fu-hsiang still been alive, the Mahomedan North West would perhaps have refused to accept the Republic, with disastrous results to the neighbouring provinces.

487 From Wat'ing the road runs up a ravine to the west, reaching the foot of the Liupan Shan after 15 li, whence 133 it ascends by a series of zigzags to the summit of the pass, a grassy ridge about 9000 feet high. There were many big carts making the ascent, a most arduous business effected by relays of animals. Here again, as often on our journeys, we had reason to congratulate ourselves on having a caravan of good pack mules instead of carts. The Liupan Shan is a prominent range of mountains rising far above the loess, which crosses Kansu from N.W. to S.E.; it is probably a continuation of the chief range of the Nan Shan, which is crossed by the main road west of Lanchou at the Wushao Ling (10,000 feet) and through which the Yellow River breaks its way in a series of precipitous gorges between Lanchou and Chungwei. From the pass there is a steep drop of about a thousand feet, and the road then descends through a dreary barren valley to Lungtê Hsien, a most miserable little city almost entirely in ruins, 50 li from Wat'ing. The loess country west of the Liupan Shan is much more barren and desiccated than on the P'ingliang [243] side, and round Lungtê the poor-looking wheat crops were only just showing above ground towards the end of May.

PLATE XXVI

133

THE LOESS COUNTRY OF CENTRAL KANSU

THE LOESS COUNTRY OF CENTRAL KANSU

[FACING p. 111]

Most of the magistrates' yamens throughout Northern and North-Eastern Kansu were dreadfully dilapidated, but the one here was about the worst we saw, being scarcely habitable, and in keeping with the rest of this ruined little city. The magistrate complained that the inhabitants of his district were poor to the verge of starvation. 634

I was told that the road across the Liupan Shan was made by General Tso to facilitate communications during the campaigns against the Mahomedans, the former route, which is still used to a limited extent, passing from Wat'ing to Kuyuan, and thence *via* Haich'eng and Chingyuan to Lanchou. 491

From Lungtê to Chingning Chou is a march of 90 li down the valley, which is cultivated but very arid-looking, and dotted with wretched farms and hamlets. There are no trees except those which line the road. The arid climate of North China is often ascribed to the destruction of the forests by the Chinese in ancient days, but it is doubtful whether the loess was ever covered by trees owing to its peculiar consistency; it is certainly quite unsuited for the growth of trees nowadays. Further on the valley becomes quite barren, the ground being covered with a white alkaline efflorescence, and 15 li from Chingning it narrows to a gorge with the path ledged in the hillside, eventually debouching on to a more fertile valley where irrigation is practised. Chingning, a considerable market town, lies in this valley. 487 133

On the following march the road turns up a side ravine, climbs a long steep hill to a pass in the loess, and descends through a maze of loess hills to a valley which leads down to the village of Kaochia P'u (45 li); it continues to follow this valley for another hour's march and then turns north-west up a long narrow defile in the loess, a weary trek with repeated little steep descents and ascents in and out of side nullahs, for the rest of the way to Ch'ingchia Yi, 90 li from Chingning, a walled village and former posting stage and fort. These posting stages, with which we became so familiar on the main roads of Kansu, are mostly provided with official rest-houses called *hsingt'ai*, in which we were usually quartered; though very dilapidated they provided quite good accommodation in the summer, being usually uninhabited and therefore free from smells. The [443] 485

485 inns of Shensi and Kansu, which we very seldom used, are also not bad, being large and roomy, and constructed mainly with a view to the accommodation of plenty of animals in the courtyard. I have a particular aversion to the Szechuan inn, usually considered, especially by the Chinese, as providing the height of luxury on the road; they are always crowded in between the other houses of a narrow street, and invariably have the defect of placing the *shang fang* (the chief guest room) next door to the *mao fang*, a revolting arrangement for a night's rest, which the Chinese do not seem to object to.

271 Ch'ingchia Yi was the first place where we struck brackish water, and from here on to within two days of Lanchou I found it scarcely potable. This is a very real trial in the dry season in Central Kansu, and though in the course of our journeys brackish water was of frequent occurrence, we never became accustomed to it, and found it a great hardship to be greeted with a cup of salted tea at the end of a hot day on the road. After the rains have
312 fallen the water is said to sweeten. We were warned of this, of course, but were told that the Mahomedans collected sweet rainwater in specially prepared pits, called *chiao shui*; but owing to lack of rain most of these pits were dry, or contained only a little evil-looking liquid loess mud. I believe that water in pure loess is usually brackish, but in most parts streams or wells are available in the underlying rock; this portion of Central Shensi, however, is in the heart of the loess watershed between the Wei and Yellow rivers, lying mostly over 6000 feet above sea level, and it is the streams themselves which are the worst to drink. I thought I did not know what real thirst was till crossing Central Kansu at the driest season of the year, but later on, when traversing a portion of the Alashan desert further west in early August, we longed even for the salted tea of Huining.

487 From Ch'ingchia Yi the road continues to ascend the same defile for ten li, crosses a pass in the loess, and descends
• 133 by a similar ravine leading west. Several hamlets mostly in ruins are passed, including the walled posting stage of Chaichia Tsui. These ruins, now more than fifty years old,
669 which become increasingly frequent as one proceeds west, are part of the trail of desolation left by General Tso's

victorious army all the way from Shensi to Turkestan, their 669 method of dealing with the rebellion being to massacre the inhabitants and reduce to heaps of ruins every Mahomedan habitation they came across. As the male Mahomedans were mostly scouring the country in marauding bands, they met with little difficulty in doing so. Chinese rebellions have in the past of course always been suppressed in this manner, and indeed could probably not have been suppressed otherwise. Fifteen li from Huining the valley contracts into a 487 gorge, and the road runs down the bed of the stream, a brackish trickle of water, for the rest of the way. Huining 133 is a poor city lying in a region of arid valleys. Complaining of the hardships of life at his post, the magistrate informed us that in many parts of his district ordinary fuel was unobtainable, and the inhabitants were reduced to burning [372] dried dung as in the deserts of Tibet and Mongolia. This arid region stretches away apparently to the north till it merges into the Ordos desert, a land of sand and camels. In addition to being such a miserably poor district, his post had the disadvantage of lying on this great road, and when an important personage, such as a Mongol prince or high Chinese functionary, passed by on his way to or from Turkestan, his passage would leave the unfortunate magistrate many hundreds of taels out of pocket, which he could ill afford. We were a very small party when travelling in Kansu and I hope we did not cost him anything; but I know that when we commenced our journeys in Shensi with a huge party we were a heavy burden on the people and officials of the districts through which we passed.

The next stage is a short one of 60 li to the walled posting stage of Hsikung Yi. The road runs down the Huining valley for 20 li, and then ascends a side ravine to the southwest for the rest of the way. The hamlets passed seemed more miserable and the country more desiccated than ever. All along this road, as on most of the bigger roads of Kansu, may be noticed groups of curious little towers every five to 718 ten li. It was a long time before we could get a satisfactory explanation of what these towers were intended for; so far as I know they are only to be seen on the roads of Kansu. We now learned that they were beacon towers, another relic of the rebellion and its suppression, by means of which

718 signals could be sent great distances in a very short space of time.

487 From Hsikung Yi to Anting, another short stage of 60 li, the road follows up the ravine for ten li, and then climbs a
133 long steep hill by zigzags. On reaching the summit there is no immediate descent the other side, but the path winds along a high ridge with extensive views over the loess
[36] mountains all around, finally dropping steeply to Anting in a valley running north-west. Anting Hsien (now known as Tinghsi) is an important district city lying at the junction of three valleys, and, commanding several roads north, south, east and west, was formerly an important military centre. There is more water available here, and consequently the country is much more fertile and the people quite well off. Loess country in this rainless region is either a desert or a garden according to the amount of water available for irrigation, and from here on to Lanchou, though the hills become more and more sterile, the irrigated valleys are wonderfully green and fertile.

From Anting to Lanchou is a march of four short stages of about 60 li each. The road runs down the valley past several prosperous hamlets for 45 li to the village of Ts'ank'ou whence it strikes west up a side valley to the posting station of Ch'enk'ou Yi, the end of the stage. From here it ascends a gully for a few li and then climbs a steep loess hill to reach the summit of a ridge along which it winds for three to four hours' march, with finally a steep descent to the large market village of Kantsao Tien, lying amongst fertile irrigated fields at the junction of three valleys. To the south-west rises a high range of mountains, beyond which lie Titao and the T'ao River. From here on to Lanchou the irrigated valleys, bounded by desert hills, are highly productive, and the crops several weeks ahead of those in the barren region we had traversed since crossing the Liupan Shan.

From Kantsao Tien a good road runs down the cultivated valley for 70 li to Chinchia Yai, a large village and likin
[36] station, and the end of the stage. The district city of Chin Hsien lies just off the road, 25 li to the south. Leaving Chinchia Yai the valley soon contracts to a stony ravine, and after 20 li debouches suddenly on to the gorges of the Yellow River, which here rolls its turgid waters between precipitous

granite walls. The path runs for a short distance along the 487
river, and then enters a belt of sand hills from which it 133
emerges on to the river again at the village of T'ungkuan
P'o, lying at the entrance to the gorges. From here to
Lanchou (20 li) the road is a broad highway up the open
cultivated valley of the Yellow River.

Lanchou Fu, now officially known by the name of the 361
district, Kaolan Hsien, is by far the most attractive of the
provincial capitals of China I have visited. It is built along
the right bank of the Yellow River at a point where the hills
close in on the river, the valley expanding into small plains
to the east and west. The greyish yellow city walls and
towers blending with the yellow waters of the river and the
desolate yellow grey hills all around, the whole relieved by
the bright green of the irrigated fields in the valley, combine
to form an attractive picture which will long remain with
those on whom the deserts and mountains of the North West
exercise their mysterious charm. The modern iron bridge 491
across the Yellow River, constructed a few years ago by
foreign engineers, is rather an eyesore, but its great utility
more than makes up for its appearance. Across this bridge,
which at the time of our visit was in a very decayed state
as far as the woodwork was concerned, passes an almost
incessant stream of traffic, carts, ponies, mules, camels, and
sometimes yak, bound eastwards for China and westwards
for Turkestan. So far as I know there are only three
bridges across the Yellow River, this one, and the Peking-
Hankow and Tientsin-Pukou railway bridges in Honan and
Shantung; which is, however, a better record than the
Yangtzu can show, the latter having no bridges across its
course anywhere. The walls of Lanchou are well built and 361
kept in good repair, and the whole city has an air of compact
strength, comparative cleanliness, and prosperity. It was
never taken by the Mahomedans during the rebellions of
the past, and it was also one of the few provincial capitals
to escape being looted by soldiers or mob during the revolution
of 1911 and subsequent troubles, and its shops appear
rich and well stocked. Owing to its situation at the junction 438
of the Yellow River with the highway from China to
Turkestan, as well as numerous other roads leading in
various directions, it is by far the most important centre in

CHAPTER IX

FROM LANCHOU FU SOUTH TO CH'INCHOU AND THENCE WEST TO T'AOCHOU ON THE KOKONOR BORDER

Shani—Titao—Weiyuan—Kungch'ang—Ningyuan—Fuchiang—Ch'inchou—Schools, government and missionary—Li Hsien—Western end of Ch'inling Shan—Profusion of pheasants—Grass plateau—Modern maps of China—Min Chou—T'ao river valley—New T'aochou—Mahomedans on Kokonor border—Choni—Old T'aochou—Tibetan trade—The Min Shan—Mission work amongst Tibetans—Pneumonic plague.

We finally left Lanchou on June 9 for Ch'inchou, Minchou, 487
and T'aochou. The road runs due south, ascending a 133
narrow stony valley, for 40 li to reach the village of Akan
Chen, picturesquely situated in a wooded gorge. Most of [316]
the coal consumed in Lanchou comes from this neighbourhood, and the manufacture of pottery seems to be quite a [323]
local industry. We passed the night here, though the village was hard put to it to accommodate our moderate-sized party. On the following day the road ascends through a wooded ravine where pheasants are numerous for some 15 li to the top of the pass, and then descends for three hours' march through a barren rocky gorge to the hamlet of Chungpu, which is an alternative halting-place to Akan for breaking the 120 li from Lanchou to Shani into two stages. From here the road threads its way through barren hills of sandy loess for about 35 li to Shani, a wretched walled village recently promoted to the rank of district city under the new name of T'aosha Hsien. It is suitably named for the surroundings are almost desert, which is characteristic of the T'ao valley from here down to its junction with the Yellow River, and form a curious contrast to the thickly wooded slopes round Akan Chen.

From Shani to Titao Chou is a march of 90 li up the 312
T'ao River valley, which is here about a mile broad and
converted by irrigation from a desert into a market garden. 361
Numerous villages are passed, the largest being Hsintientzu and Hsink'ai P'u, 30 and 50 li out. Titao Chou, now Titao

[P.123]

312 Hsien, surrounded by rich irrigated lands, is a city of some importance, occupying a strategic position between Lanchou Fu and the Mahomedan strongholds round Ho Chou. It [277] is also a centre of the water pipe tobacco industry and of the trade in lumber, the latter rafted down the T'ao River [315] from the forests of the Kokonor.

From Titao to Weiyuan Hsien is a distance of 110 li 487 across the watershed between the T'ao and Wei rivers, which can be divided into two marches by halting at the 133 hamlets of Yaotien or Ch'ingp'ing, where there are inns, 50 and 80 li out respectively. Leaving Titao the road runs up a shallow cultivated valley bounded by hills of red clay in an easterly and then a southerly direction for 80 li to the hamlet of Ch'ingp'ing, where the valley is a mere ravine. From here it ascends a grassy ridge which is followed for two hours' march to gain the watershed pass, and then drops steeply to Weiyuan Hsien. The railway from Hsian to Lanchou which, it is proposed, shall follow up the Wei valley, will here presumably require a tunnel through this watershed to reach the valley of the T'ao. Weiyuan is of some interest to the Chinese as lying on the headwaters of their historical river the Wei. We found it a small but well-kept city, rejoicing in a particularly progressive young [491] magistrate. The river is here quite small and easily fordable, and its valley though narrow is cultivated and has a prosperous appearance.

From Weiyuan to Kungch'ang is a march of 90 li by a good road down the valley, generally a mile or two wide, well cultivated, and bounded by bare hills. Numerous villages are passed, the largest being Shouyang Ch'eng, half way. Kungch'ang Fu, now known as Lunghsi Hsien, is a large city in extent, but having been destroyed during the Mahomedan rebellion is still half in ruins. Another march of 90 li, still down the valley, brings one to Ningyuan. Forty li out the hills close in on the valley which becomes barren [491] and stony. The Wei River is forded twice on this stage and also the Nan Ho, a large tributary from the south. The latter was in flood and gave us some trouble. Immediately after crossing the Nan Ho there is a steep ascent and descent over a ridge which blocks the valley at this point, followed by an hour's march down the open valley to Ningyuan.

Many villages are passed on this stage, the largest being 487
Ssushihli P'u and Chaochiakengtzu, 40 and 50 li out
respectively. Ningyuan (new name Wushan Hsien) is a 133
pleasant little city lying in the irrigated valley of the Wei
River producing heavy crops of corn and hemp.

From Ningyuan to Fuchiang is a long stage called 100 li. The road continues down the valley, crossing a loess ridge just before getting to the large market village of Lomen Chen, 30 li out. The valley on this stretch of the road is very fertile, thickly populated, and well timbered. Fuchiang is quite a wealthy town, and this part of Kansu is probably the richest in the province, with the exception perhaps of the Ninghsia plains. It used to be a centre for the opium
trade, now more or less extinct. The poppy was formerly [276]
cultivated extensively in all the irrigated areas in Kansu, and the product was considered the best native-grown opium in China and was in great demand in Peking, Tientsin, and North China generally.

At Fuchiang the road leaves the Wei valley and ascending a gorge in the loess hills, crosses a steep little pass and descends to the large village of Kuantzu Chen, 40 li out. From here it continues down this valley, that of a tributary of the Wei, passes through a stony gorge, and emerges at the village of Liushihli P'u, 60 li from Fuchiang, whence there is a good road through cultivated fields down the
valley for the remaining 60 li to Ch'in Chou. The latter, now [361]
known as T'ienshui Hsien, consists of no less than five cities built one alongside the other, and is one of the largest and most important towns in the province. A considerable
trade is carried on with Shensi and Szechuan, the exports [438]
consisting of the regular products of Kansu, such as wool, hides, deer's horns, furs, musk, rhubarb, mountain medicines, tobacco, and opium, and the imports of silk, tea, piece goods, etc. The Szechuanese element in the population is considerable, and the proximity of that province is in many
ways noticeable. It is not a Mahomedan centre, but there [563]
is a small community of Moslem merchants engaged as usual
in the horse and cattle trade and in the export of hides to [438]
Hankow. Two roads lead from here into Shensi, one *via* Hui Hsien to Hanchung, and the other *via* Ch'ingshui to Fenghsiang; two roads also lead into Szechuan, one *via*

487 133 Hui Hsien to the Chialing Chiang, and the other *via* Hsiho Hsien, Chieh Chou, and P'ik'ou; these are all mule trails.

871 Ch'in Chou is the seat of a Taoyin, a General, and a magistrate, by whom we were most hospitably entertained, being lodged in the local middle school. The latter provided quite luxurious accommodation, consisting of remarkably fine spacious buildings. There were plenty of students too, and the popularity of the government schools was here, as elsewhere in this remote province, very apparent. English, nowadays the official foreign language of China, is taught. I am not in a position to give any opinion as to the standard of the work done in these middle schools in Kansu but it is evident that they are more popular than the missionary schools, which is perhaps hardly to be wondered at. Immensely beneficial as the educational work of the missionaries is to the Chinese, it has the disadvantage, from the Chinese point of view, of being adulterated with evangelistic effort; so that the student, athirst for Western knowledge, has to swallow the Christian powder skilfully hidden between layers of scientific jam. Then there is always the underlying feeling against the alien institution, and also the fact that all the missionaries who engage in educational work in China are not always well qualified to lead their pupils very far. In Kansu missionary schools exist in only a very small way; but in some provinces, notably Szechuan, large institutions have been established, including a university. These remain, however, like the Christian Church in China, purely foreign institutions for the Chinese under foreign management, and for that reason are not always appreciated by the Chinese as they doubtless deserve to be; the latter would probably prefer that the foreign teachers should offer their services in the government schools.

487 133 From Lanchou Fu we had so far been following one of the main trade routes of Kansu, but we now turned westwards *en route* for T'ao Chou on the Kokonor border, following a very rough mountain trail through the heart of the western extremity of the Ch'inling Shan. Our first objective was the little district city of Li Hsien, distant two days' march, lying on the headwaters of the Chialing Chiang and therefore in the basin of the Yangtzu.

Leaving Ch'in Chou the path runs up a bare valley due south for 15 li and then branches off up a side ravine 487 to the S.W., another road continuing south up the main valley towards Hui Hsien. After an hour or two's march 133 up this ravine the trail ascends a low pass, crosses a small valley, and immediately rises again to cross another low pass, whence it descends to the village of Kaomo Chen in the valley of a streamlet flowing from west to east. We were delayed [262] in Kaomo Chen for half a day by our mule train following the wrong path, and its poverty was evidenced by the fact that we could get nothing but unleavened cakes of maize to eat, the most unpalatable form of nourishment I have ever had to put up with in China, though very often the only food of the people in mountainous country. From here the trail ascends by easy gradients to a pass in the Yangtzu-Yellow River divide, a climb of less than an hour over grassy slopes devoid of trees, and then descends steeply to a valley running south-west The track follows down this stream for 20 li to the village of Lochia P'u, where it debouches into a broad and fertile valley, bounded by low cultivated hills of loess, the stream flowing from east to west. This stream is one of the headwaters of the Chialing Chiang, which flows through Szechuan to Chungking, and it is remarkable to find so much loess south of the divide. The latter formation may also be seen on the headwaters of the Shensi branch of the Chialing Chiang round Feng Hsien on the Hsian Chengtu road.

From Lochia P'u there is a remarkably good road down the open loess valley for two hours' march to the walled village of Yen Kuan, where there are said to be salt wells. The magistrate of Hsiho Hsien met us here, as we had entered his district; he said that a road branches off at this point to Hsiho and Chieh Chou and so to Szechuan. From Yen Kuan the road continues down the valley until within 20 li of Li Hsien, where it crosses a spur to avoid some gorges, and the loess formation comes to an end. Li Hsien [361] is a picturesque little city lying hidden away on the southern slopes of the Ch'inling Shan in a country of narrow fertile valleys, whose streams all go to form the headwaters of the Kansu branch of the Chialing Chiang. From here to Min Chou our route followed an unfrequented trail which penetrated the Ch'inling Shan in the most curious way, passing and repassing from one to the other side of the watershed. In this neighbourhood the Ch'inling ranges do not appear such a formidable barrier between the Yellow River and the Yangtzu as in the places where we had crossed them further east in Shensi, perhaps owing to the greater elevation of the country on either side; unfortunately my aneroids were temporarily out of action owing to an accident on this portion of the journey, so that we could not follow the heights. West of Min Chou the Yangtzu-Yellow River divide is continued by the magnificent Min Shan, a rocky and almost impassable barrier reaching in places above the line of perpetual snow; but there does not seem to be any well-defined barrier ridge joining this range to the Ch'inling Shan, and if railways ever reach this part of Kansu it should not prove very difficult to connect them up with the future lines of Northern Szechuan.

Leaving Li Hsien the trail leads up a narrow valley to the north-west for 40 li to the hamlet of Wuch'uanli, a most picturesque spot surrounded by wooded mountains, where we passed the night in a temple. An hour's march further on the path turns up a side ravine, crosses a low pass, and descends into another narrow valley trending from north to south. Ten li up this valley a few huts called Chiutientzu are reached, beyond which the trail turns up a side gorge and climbs steeply to reach the summit of the Fenshui Ling ("Watershed Pass"). The scenery in these mountains is very fine, and the country wild and uninhabited. From the pass the trail descends through a flat grassy valley and then through cornfields to reach the market village of Mawu Chen 60 li from Wuch'uanli. Here one is apparently again on the northern side of the Ch'inling Shan, the stream flowing north to join the Wei.

From Mawu Chen the path turns west up a narrow valley, which for profusion of pheasants beat every other locality we traversed in all our long journeys. The sides of the ravine were clothed in dense jungle while in the bottom were patches of cultivation with the corn ripening for harvest. These fields were literally alive with pheasants, which blundered up in flocks as one moved up the valley through the corn. Here, as often before in Shensi and Kansu, we could not fail to be struck by the absurdity of all

this game being untouched by the natives who not only 000
neglect all this excellent food lying to their hands, but also presumably lose quite a lot of corn eaten by the pheasants. In the eastern provinces where there is a foreign market and also the demand created by the companies which export frozen game (a demand which is a serious danger to the stocks of game in those parts) the Chinese wage an unceasing war against the pheasants with gun, net, and even poison. I have known Chinese hunters in the mountains of Northern Chihli who used to make good shooting with the prehistoric looking Chinese gun with its pistol stock, which discharges a stream of bits of old iron and gives the shooter a severe blow on the cheek-bone when it is fired; and I have also been out with Chinese hunting pheasants with a native dog and hawk. But I have never come across a native in the mountains of Kansu who took the least interest in the pheasants picking grain on his threshing floor.

Following up this ravine from Mawu Chen for some 30 487
li the trail crosses a small pass and descends to a few huts 133
called Shachin Kou, where one is apparently again on the southern side of the watershed with the stream flowing south towards the Chialing Chiang. From here it turns west again up another wooded gorge, where we startled a couple of deer, too big, I think, to be roe, leading to an easy pass over grass-covered mountains. Here there is a sudden and complete change in the scenery, and the trail descends into a broad shallow valley, devoid of trees, and dotted with farmsteads and patches of cultivation. Crossing this valley, which slopes north and is apparently once more on the northern side of the watershed, past the village of Suluk'o (60 li from Mawu Chen), the track engages itself in another grassy valley leading west. At the head of this valley one emerges on to a treeless marshy plateau dotted with herds of cattle. We were here assailed by a rain storm, and though the season was the end of June it was bitterly cold; my aneroids being out of action I can only guess the height, which was perhaps 9000 feet. An hour's march across this plateau brought us to our destination for the night, the hamlet of Tachuangtzu, 80 li from Mawu Chen, where the black peaty soil was under cultivation to a limited extent.

576 As we rode into this little place,[1] cold, tired, and generally rather miserable, the entire visible population fell on their faces, since republican principles had not yet penetrated to this out-of-the-way spot, and they thought they were prostrating themselves before an "Imperial Mission." The headman had, however, prepared the best of the mud cabins for our accommodation, and we were soon warm and dry again, and engaged in disposing of some of the cock pheasants picked up *en route*.

487 133 A few li beyond Tachuangtzu the trail drops over the edge of the plateau to reach the considerable village of Ch'enchiachi, lying in a flat cultivated valley sloping north and surrounded by grassy mountains. We halted here for the night owing to the rain, only having made ten li; quite good accommodation was secured in a farm house, but it was miserably cold. From here the road runs westwards across rolling grass country intersected by shallow cultivated valleys sloping north with sheep and cattle grazing on the hill slopes. This curious grass-covered plateau, the presence of which is entirely unexpected in a region of steep mountains, appears to be the westernmost end of the Ch'inling Shan, a range which we had come to know so well in the course of our journeys. After about three hours' march there is a slight rise to a pass, and then a precipitous drop for ten li to reach a village called Panchi Chuang, lying in a narrow valley. Another two hours' march down this valley brings one to the large walled village of Lich'uan, 60 li from Ch'enchiachi and 70 li from Min Chou. Here the stream flows south towards Szechuan and one is again on the southern side of the watershed.

From Lich'uan the track runs N.W. up a side valley ending in a grassy pass. For the next five li or so it keeps to the top of the mountain, whence there are truly magnificent views over the rocky snow-patched Min Shan to the south-west, and then descends steeply through a ravine to the valley of the T'ao River. Two tributary torrents are forded before the city of Min Chou is reached. Being now again in the valley of the T'ao we were once more on the northern side of the Yangtzu-Yellow River watershed. Since leaving Ch'in Chou a few days previously we had crossed this divide no less than six times, which is sufficient

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[1] [the hamlet of Tachuangtzu -- ANALYST]

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to show the interesting nature of this mountain trail. A proper survey of this region would be sure to bring many interesting facts to light. Unfortunately the prospects of accurate map-making in China are not very bright at present. The Chinese, not unnaturally, have recently taken to objecting to the wandering foreigner who used to roam across the country making a map, and they profess to be compiling an accurate survey of the whole country themselves. The results of the work done in this connection in the north-east provinces has not been published, however, and at the present rate of progress it does not seem likely that the more remote parts in the west will be reached for generations. In the meantime existing maps of China are most unsatisfactory. Some of the coast provinces have been fairly thoroughly mapped by foreign military officers after 1900; there is also a very good British map of Szechuan, though where its authors have relied on the work of previous travellers, as in the case of the important Hsian-Chengtu road, it contains many errors. In the case of a remote province like Kansu, however, the best existing foreign maps are merely compilations of the route surveys of various foreign travellers, with the result that one gets an accurate representation of certain roads intersected by spaces which are practically blank, or filled in more or less at haphazard with names from old Chinese maps. In the case of Kansu many of these route surveys were compiled by Russian travellers long ago, more interested in Tibet and Mongolia than in China, so that one finds names like Mount Konkyr, Donkyr, Ugambu, etc. (to mention a few in the neighbourhood of Hsining) reappearing on the most modern maps; some of these names are nowadays quite untraceable amongst the Chinese; others are curious corruptions of well-known Chinese centres, like the two last mentioned, which represent Tanko and Weiyuan P'u respectively. Thus, although the interior of China is nowadays so well known, it is likely to remain for long one of the worst mapped parts of the world. For travelling purposes we found modern Chinese maps, compiled from the rough charts of the various districts (Hsien), though geographically very inaccurate, more useful than the foreign maps, as one could at any rate rely on the place-names.

487 133 It is suggested that the Chinese might with advantage borrow the services of some officers from the Survey of India and proceed to the triangulation of the whole country. The results, at any rate in Kansu and parts of Shensi, would be surprising. Amongst many other interesting facts which would be brought to light are the actual heights of the snow-clad mountains on the western borders of Kansu and Szechuan, some of which probably equal or surpass all but the highest giants of the Himalayas.

361 438 Min Chou (now Min Hsien) is a small city with busy suburbs situated on the right bank of the T'ao River at the point where the latter, flowing down from the Kokonor mountains in the west, makes a sharp right-angle turn to the north. The altitude is about 7500 feet. The T'ao River [241] valley, here nearly a mile wide in places, is very fertile, and produces wheat, barley, beans, hemp, etc. Like T'ao Chou and Hsiku, Min Chou is a centre for the Chinese trade with the Tibetan inhabitants of the Kokonor country 493 further west. A rough cart built entirely of wood with remarkably high wheels and drawn by the half-bred yak is used round Min Chou, on the roads to T'ao Chou, on the grasslands round the latter, and in other border parts of the province. I mention this cart because it is obviously very useful and because it is quite unusual to find wheeled traffic of any kind in such mountainous country in China; its introduction into the Tibetan inhabited plateau west of Tachienlu in Szechuan would revolutionise transport in that region.

487 [491] 133 Leaving Min Chou the road runs along the right bank of the T'ao River for ten *li*, and then crosses to the left bank by a ferry, the bridge having been destroyed at the time of the White Wolf raid. The river is here in the summer about 80 yards wide, six to eight feet deep, and very rapid. Navigation is confined to rafts of lumber down stream. From the ferry the path continues up the valley for three to four hours' march to the village of Hsitachai. The T'ao River valley is in this neighbourhood one of the most attractive regions in Kansu, or perhaps in China, being fertile and well cultivated, and bounded on the southern side by forest-clad mountains, the foothills of the great Min Shan. The river flows much of the way in a narrow

trough below the surrounding level of the valley. Just -187
beyond Hsitachai the path leaves the T'ao River, along 133
which another track runs direct to Choni, and turns up a
side valley to the north to reach a semi-Tibetan hamlet
called Shanch'a, 80 li from Min Chou, where we passed the
night in the house of the headman. Pheasants were abundant
in this picturesque and well-wooded valley.

At Shanch'a the path turns up a side ravine leading after
an hour's march to an easy pass, whence there is a descent
for another hour into a bare valley, followed by a rise over
a second low pass, and a descent to New T'ao Chou in
another bare open valley, a march of 40 li in all. New T'ao 361
Chou (now called Lintan Hsien) is the official town, as
opposed to Old T'ao Chou, distant 60 li, the commercial
town, and is an empty shell of a city of no importance.
About half the few buildings inside the walls had been
destroyed by the White Wolf rebels the year previously.
We were accommodated in a temple which the magistrate
had fitted up temporarily as his yamen. The city lies in
a bare open valley some 20 li or so north of the T'ao
River in a region of treeless hills of loess, red clay, and red
sandstone. This somewhat dreary belt of bare red hills 563
intervenes practically all along this border between the loess
of Kansu proper and the pine forests and grass lands of
the Kokonor country, and corresponds roughly to a similar
Mahomedan wedge between Chinese and Tibetans. The
red hills round New T'ao Chou are cultivated and dotted
with villages, mostly Mahomedan. The Moslems extend
from here along the border to their real strongholds round
Ho Chou and Hsünhua, and thence north of the Yellow
River to beyond Hsining. We were travelling round the 132
two T'ao Chous during the season of summer thunderstorms
(early July), and usually experienced several daily, some very
severe and rather alarming in this elevated region. On one 788
occasion hurrying into a Mahomedan farmhouse for shelter
we found the inhabitants at prayer as though in a mosque; 795
this custom of using private houses for prayer is, I was told,
confined to the followers of the "New Sect," which is very
extended and influential in Kansu. Our sudden intrusion 563
was not resented in the least, and on this, as on every other 609
occasion when I met Mahomedans in Kansu, we were

563 treated with every courtesy. The Mahomedans of Kansu
609 still consider themselves to a certain extent as foreigners
sojourning in a strange land, and greet travellers from the
west as fellow-wanderers.

• 133 From New T'ao Chou to Choni, a march of 30 li, the
track runs south-west over a low pass in the red clay hills,
487 crosses a valley trending south, ascends another low pass,
and descends through a grassy ravine to the T'ao River.
563 Choni, the residence of a T'ussu, or native chief, ruling
several Tibetan tribes in the neighbourhood, is a picturesque
[361] little place, a walled village built round the chief's residence
[792] on the banks of the T'ao, and overlooked by a lamasery
containing some 500 monks. We were received by the
[576] usual cannon shots (an old-fashioned Chinese custom still
surviving in most parts of Kansu which is terrifying to
one's pony unless accustomed to it) and really sumptuously
lodged in the chief's residence. The Choni T'ussu is by
far the most important native chief in Kansu and exercises
jurisdiction over an extensive territory. Some of his tribes,
especially those living to the south of the Min Shan, are
turbulent and not easy to control. The chief is under the
authority of the Governor at Lanchou, but unlike his
colleagues in Szechuan west of Tachienlu, he retains his
power unimpaired over his Tibetans. On the east his
jurisdiction is bounded by Chinese territory; on the west
it fades away amongst the lawless nomads of the grass-
lands. His authority, like that of most native chiefs in
China, extends rather over tribes and families than fixed
territory, and its limits are therefore vague.

563 The T'ao River is here the dividing line between
Tibetans and Chinese (Mahomedans), the forest-clad
mountains to the south being inhabited by the former, and
red hills to the north by the latter. There is good big game
shooting to be had in these forests, wapiti, sheep, goral,
487 serow, bear, etc. The elevation of the valley seems to be
about 8000 feet at Choni.

133 Leaving Choni the road runs up the beautiful T'ao valley for about ten li, and then turns north-west up a small ravine leading to an easy pass. From here it runs along the top of the mountain for a few li, descends into a valley, crosses another low pass, and drops down to Old T'ao Chou, 45 li from Choni.

Old T'ao Chou lies in a valley about ten li north of the 361
T'ao River at an elevation of about 9000 feet in the same region of bare red hills with cultivated valleys as the New City. At the time of our visit its chief feature was the fact that the four walls enclosed nothing but a mass of ruins, the town having been completely burnt out by the White Wolf rebels the year before; we saw many a ruined city in Kansu in the course of our travels—indeed in that province ruins are the rule rather than the exception—but nothing so utterly and completely destroyed as Old T'ao Chou. Outside the city, however, there was a suburb which did not seem to have suffered much, and here we were well lodged in a large Tibetan inn. T'ao Chou is the Kansu 439
counterpart of Tachienlu and Sungp'an in Szechuan, a centre for the exchange of the products of China and Tibet, where barley meal, piece goods, tea, tobacco, and Chinese wares such as saddlery, boots, guns, felt, etc., are exchanged for wool, skins, furs, gold dust, medicines, deer's horns, Tibetan incense, and other produce of the highlands, a lucrative trade here largely in the hands of the Mahomedans. There are, however, certain marked differences in the conditions ruling at T'ao Chou and Tachienlu. For instance in the latter place trade during recent years has been greatly interfered with by the hostilities which have been carried on intermittently between Chinese and Tibetans during the past few years, whereas at T'ao Chou the traffic has been uninterrupted; secondly at Tachienlu the lamas and native tribesmen have been completely cowed by the Chinese and are not allowed to carry arms, whereas at T'ao [563]
Chou the wild-looking nomads swagger about the streets armed to the teeth, and have so far only been bested by the Chinese in commercial transactions.

A road leads from T'ao Chou through the grass country 487
of the independent Golok to Jyekundo and Central Tibet.
Though this route is little known, it is said to pass through 133
good grass country most of the way, and is perhaps the easiest road from China into Tibet. Another road leads south to Sungp'an in Szechuan, passing over the Min Shan by a peculiar looking square gap in this rocky barrier range, called the "Shih Men" (Stone Gate), but it is little used traverses the territory of one of the most lawless tribes

487 under the Choni chief. From the neighbourhood of T'ao
Chou fine views are obtainable over this great Min Shan
133 range, rising like a gigantic wall of snow-patched rock immediately to the south of the river, its serrated peaks being, I should say, 16,000 to 17,000 feet in height. It here forms the divide between the Yangtzu and the Yellow River, and from it the Ch'inling Shan continues eastwards right across China to the plains of Honan, separating the rice-eating peoples of Central China from the wheat-eating inhabitants of the north. Should such a catastrophe ever occur as a temporary separation of Northern from Southern China, this great barrier range would form an ideal political boundary between the two States.

797 There is a station of an American mission at T'ao Chou (as also at Min Chou, Choni, and Titao) designed for work amongst the Tibetans of the Kokonor border. But as has been the case with missionary work on the Szechuan Tibet frontier, their efforts to influence the Tibetan tribesmen have been practically without result owing to the immense power of the lama church and its monasteries. This mysterious Sino-Tibetan borderland and the prospect of attacking lamaism in its native strongholds have attracted some of the finest missionaries in the East, who, however, find after years of strenuous work and self-denial, that they have only succeeded in influencing a few of the Chinese. In Tibetan Yunnan the Catholics, and on the Indo-Tibetan frontier the Moravians, have been working for the past 50 years or so, I believe with the same lack of success as far as the Tibetans are concerned; and in the case of the China Inland Mission, which worked for years amongst the Tibetans of the Szechuan marches, the only converts obtained were amongst the Chinese settlers of that region. Viewed from a missionary point of view, it therefore seems a doubtful policy to waste so much money and energy in attempting the impossible on the sparsely populated Tibetan borderland, when there are still many great centres, at any rate in the north-west, of the more receptive and friendly Chinese untouched.

164 The year after our visit there was an outbreak of pneumonic plague 'round T'ao Chou, which appears to have originated in the same kind of grass country inhabited by nomads and marmots as the Manchurian outbreak of 1911.

Leaving T'ao Chou the trail runs north-west over a low 487
pass in the red clay hills, traverses a cultivated valley
trending south, and ascends by easy gradients to another 133
pass, whence there is a particularly fine view over the Min
Shan to the south of the T'ao River. Beyond this point
Chinese cease to be seen. From this pass the track descends
steeply to another stream flowing south and then continues
north-west up a flat shallow valley bounded by bare grassy
hills. In this valley and its neighbourhood there are several [364]
Tibetan villages, in one of which, about 50 li from T'ao
Chou, we passed the night; its name has escaped me, if I
ever heard it. These villages are under the control of the
Choni chief, and preparations had been made to receive us
in the headman's house. The Tibetans are usually considered
to live under the hardest and most filthy conditions, which
is certainly so in the case of these Amdowa where they are
nomads on the grass-lands. But the houses of the headmen 342
of the agricultural Tibetan villages, both here and elsewhere
where we rested in them, showed an astonishingly high
standard of comfort and were superior to any Chinese house
I have seen. These houses are solidly built of wood and
stone of two stories, and the rooms of the one in which
we were lodged here were spotlessly clean and panelled
with stained wood.

An hour's march beyond this village the trail emerged 487
from the valley after topping an easy pass, where marmots 133
were very abundant, sitting up in front of their holes and
dodging in as one approached them. This pass is here the
boundary of the real grass-lands, and apparently the border
of the Choni chief's territory in this direction. Beyond it 233
all cultivation ceases, there are no more houses, and one
enters a region of shallow valleys and low mountains
(elevation about 11,000 feet) dotted with large herds of yak,
sheep, and ponies grazing round the black rectangular tents
of the Tibetan nomads, here, as elsewhere, called Drokba.
These grassy steppes, always referred to by the Chinese 133
as *Ts'ao Ti*, bound China everywhere on the north and 563
west, and always one ascends to them through a region of
broken mountains, whether it be from Szechuan or Kansu
up to the highlands of the Tibetan plateau, or from Chihli
or Shansi up to the highlands of Mongolia; and always it

133 is the same land of nomads and lamas, whether Tibetan 563 or Mongol. In past centuries the Chinese were ever engaged, with varying success, in defending their fertile plains and valleys against the incursions of Tartar hordes from these tablelands; now the nomads are impotent outside their own territories, reduced in numbers and virility perhaps by the lama religion, and these vast empty spaces serve as buffers protecting China from the rest of Asia. Undoubtedly her wisest policy is to leave the scattered inhabitants to manage their own affairs as hitherto under her vague suzerainty.

133 The trail runs north-west across these grass-lands, 487 passing continually from one shallow valley to another; at first these valleys slope S.E. towards the T'ao River, but after 20 li or so they slope N.W. towards the Ho Chou [361] River. The pasturage is excellent and there are many nomad encampments; the latter are only to be approached with care, as they are guarded by huge Tibetan mastiffs, I should think easily the most formidable breed of dog in the world, and the nomads themselves are not friendly to strangers. Indeed the Amdo Tibetan of the Kokonor grass country is about the last kind of individual one would choose to meet alone on a dark night, and a wilder or more picturesque looking lot of ruffians it would be difficult to imagine. They always go heavily armed, and are robbers by nature. Once properly introduced to them, however, one can count on friendly treatment, and we had nothing to complain of in this respect. After six or seven hour's march from the 792 village where we had passed the night the trail descended from the plateau into an open and partly cultivated valley with the temples and barrack-like buildings of the monastery of Heitso Ssu at the end of it, a most striking sight in this land of tent-living nomads.

Heitso Ssu (the Chinese name) is a large and wealthy monastery, containing, we were told, some thousand lamas. It is quite a little town in itself, with, as is usually the case on this border, a small Chinese village or bazaar of one street, run mostly by Mahomedans, attached to it. It lies at the junction of two small valleys below the level of the [241] grass country, and the neighbouring slopes are well cultivated with barley and peas and dotted with Tibetan farms. We 609 were badly housed in a kind of inn in the Chinese bazaar,

which is separated from the lamasery by a stream, and as 609
the lamas did not appear particularly friendly, and we were
only passing through, we left them alone. This was really
the only place on all our long journeys where we were not
well received. Heitso is called 120 li from T'ao Chou. To 133
the south are forest-clad hills and to the north and northwest
are high rocky mountains patched with snow. My
amateur map led me to take these to be the divide between
the sources of the T'ao and Tahsia rivers and the upper
Yellow River, and therefore probably the true boundary
between Kansu and Kokonor territory in this direction. The
boundaries of Western Kansu are extremely vague, owing
to the practice of the native chiefs exercising jurisdiction
over tribes and families of nomads rather than fixed areas.

The Amdo Tibetans we met round Heitso and on our 411
road from T'ao Chou to Labrang, whether nomads or
agriculturists, were just like the tribesmen who come into
Tachienlu in Szechuan from the uplands of Kham, except
that the latter have been partly disarmed while the Kansu
Tibetans all carry swords thrust crosswise through their
belts and often the long Tibetan gun with prong attachment
in addition. Their dress is of the simplest description, consisting 291
usually of a sheepskin robe worn winter and summer
with the wool inside, often no trousers, and long leather
boots. The hilts and sheathes of their swords and knives
are often handsomely inlaid with silver and decorated with
turquoise and coral, and probably come from Kham. The 302
head dress of the women is peculiar, the hair being braided
into a number of small plaits, which hang down below the
waist and are bound together at their extremities by a piece
of cloth ornamented with silver and stones. On the grasslands 563
they live by cattle-raising and robbing, becoming
more and more lawless as one proceeds west, till the Golok
and similar tribes are reached living round the upper Yellow
River and thence southwards towards the Szechuan marches,
who are entirely masterless and acknowledge the authority
of neither China nor Tibet. As a result their territory is
about the least known portion of Asia.

The Chinese call the Amdo Tibetans Hsifan, a wide term meaning Western Barbarians applied to all the non-Chinese tribesmen from Sungp'an to Hsining. Some

513 European scholars have maintained that the Hsifan are not
Tibetans and suggested that they represent a northern
branch of one of the non-Chinese races of S.W. China, like
[197] the Lolos or Mosos. Granting that there is no such thing
as a homogeneous Tibetan race, the Hsifan of the country
west of T'ao Chou speak the Tibetan language and are as
much Tibetans as the inhabitants of any other portion of the
Tibetan plateau. A little further north they come into
contact with the Kokonor Mongols, whom they bully and
plunder. Unlike the Mongols, who are everywhere being
pushed back by the encroaching Chinese agriculturist along
the northern borders of Shansi and Chihli, the Tibetans of
the Kansu border hold their own against the Chinese
colonist; partly perhaps because the country is too elevated
to suit the latter, but also because the N. Eastern Tibetan is
truculent and independent compared to the Mongol and
272 further takes readily and successfully to agriculture. Their
food is the buttered tea and tsamba (parched barley meal)
262 of the Tibetans everywhere. Tsamba is a palatable food
for people fond of porridge, and the buttered tea is not at all
bad when regarded as gruel or soup instead of tea; it is for
this reason that the bitter teas of India are unsuited to the
Tibetans. It is often said that the Chinese sell the merest
refuse of their tea bushes to the Tibetans; but it happens
to be what the latter want to make their gruel with. There
is little or no resemblance between the tea drunk by the
Tibetans and that consumed in Europe.

142 There appear to be two racial types in Tibet, the short
round-faced Mongoloid type, and the tall prominent-featured
Aryan type; the latter is common among the
516 Tibetans of Amdo as amongst those of Kham. A peculiar
feature of the eastern Tibetan, by which he could in nine
cases out of ten be recognised in Chinese or foreign dress,
is his habit of standing with his feet turned out at right
angles to his body.

487 From Heitso Ssu the trail runs north over low grass-covered
• 133 hills for a few li and then descends through a rocky
gorge to a small monastery called K'achia Ssu (all our names
[792] are Chinese) lying in a narrow wooded valley trending N.W.
In this neighbourhood there grows a plant poisonous to
[137] ponies and mules. From here the track runs down the

valley, at first through cultivated fields and then through a 487 densely wooded gorge. This is a difficult march in the 133 summer, as the trail constantly crosses and recrosses the stream, which is rapid, obstructed by boulders, and only just fordable. Several of us got a wetting, but we were lucky in keeping the pack-mules on their feet and our bedding dry. The mountains in the neighbourhood are covered with fine forest, but mostly on the slopes facing north only, a peculiarity which may be noticed all along the Kokonor border; I have observed the same thing in the forests of Northern Shansi; whether it is that the sun is too hot on the southern slopes, or that the northern slopes alone receive sufficient moisture, I am unable to say. Four to five hours' [792] march down this gorge, past several small lamaseries, brings one to the junction of this stream with the Tahsia River, a torrent flowing from Labrang to Ho Chou. The Labrang road turns up this valley and runs for a few li through cultivated fields to the small monastery of Shakou Ssu, [792] which lies on the north side of the stream, with a Mahomedan hamlet, Sasuma, opposite, where we passed the night in an inn. There are pine forests all around, and the Tahsia River, [137] though only a mountain torrent, is used for rafting the cut timber down to the Yellow River and Lanchou. The timber [313] is made up into narrow sections, fastened one behind the other, and the jointed raft which results is navigated down the rapids and through the rocks with extraordinary skill by Mahomedan raftmen.

From Heitso to Labrang is a distance of some 120 li, and Sasuma lies about half way, the track running for the rest of the way up the valley of the Tahsia River. For the [491] first 30 li the path is very bad and rocky, the valley being a gorge hemmed in by wooded mountains; there is no more fording to be done, however, as the river is spanned by good cantilever bridges, this being a portion of the Labrang-Ho Chou road, which is much used by the mule trains of Mahomedan merchants. In this neighbourhood we saw [136] some *ma chi*, the large and handsome silver pheasant with red legs (*Crossoptilon auritum*, probably). For the second 30 li the valley opens out and the road becomes a good highway. The first intimation we received of the 361 approach to Labrang were the white and blue tents dotted

We were well accommodated by the Mahomedans in 792
their village. The Hutukotu was away "saying prayers
in the grass-country" (*Ts'ao Ti Nien Ching*—as we were 574
told), but the second lama in charge, an aged monk of refined and intelligent appearance, received us most amicably in a gorgeous apartment glittering with gold images and other signs of wealth, and gave instructions for us to be shown round the monastery. I am not sufficiently acquainted with Lamaism to be able to give an intelligent description of what we saw, but the temples were the finest and richest I have visited in China, and the residences of the monks the usual gloomy buildings common to all lamaseries. At our interview with the lama we were presented with the usual silk scarves (*Khata*), and it may be noted that the Chinese and Tibetans with us attached these in a prominent manner to their persons to show all and sundry that they had been received by the authorities of the monastery; I do not know whether this is a usual use to which to put the *Khata*, but it seemed a good idea here. After getting back to our quarters we found a present consisting of half a sheep for ourselves and several bushels of peas for our animals from the lama, which was very welcome in a country of scanty supplies.

From Labrang to Ho Chou is a distance of about 200 li, 487
which is usually made in three stages. The first day's march
took us back down the valley of the Tahsia River to Sasuma. 133
From here the trail continues down the valley, which is here cultivated, past several small lamaseries, for 40 li to the village of Ch'aokou. Here gorges are entered through which the river winds for another 20 li to the village of Ch'ingshui (these villages are Chinese, or rather Mahomedan, with nothing Tibetan about them). The path ledged in the rock and supported by wooden stagings high above the torrent is very dangerous in places. There is an idea that mules and ponies accustomed to the mountains never fall, but this is by no means the case, and I have on more than one occasion seen an animal plunge to his death over the edge of one of these precipices, though fortunately we never lost one ourselves; it is always wise to dismount in such
places. In spite of the dangerous nature of the road we 484
met large numbers of mule caravans going up to Labrang

2: Teichman G-5 (1919) 1921 AF13 Northwest China AF13

484 with the goods of the Mahomedan merchants of Ho Chou.

202 We passed the night at Ch'ingshui, where we met a military officer sent up to escort us down into China Proper who calmly informed us with little apparent interest that China and Japan were at war. This news afterwards turned out to be a local echo of the crisis existing between the two countries two months previously, and the incident shows that even today momentous events on the coast have comparatively little interest for the inhabitants of the far
133 interior. Below Ch'ingshui the path continues through winding gorges with the foaming torrent hemmed in by
487 forest-clad mountains for 20 li to the likin barrier of T'ungmen Kuan, where the gorges debouch on to an open cultivated valley. This is one of the numerous "Gates" leading into and out of China Proper on her western and northern frontiers. There is a bit of an old wall to be seen, perhaps a portion of the Kokonor loop of the Great Wall. From here to Ho Chou, a distance of 60 li, a good highway runs down the fertile valley past numerous Mahomedan villages. We did not see the valley at its best, because it poured with rain during the whole march, and the clay soil was turned into a slippery morass; at one place, crossing a nullah by a narrow causeway, one of our mule litters containing a cook was overturned into the ditch, and remained literally upside down with the eight legs of the two mules pointing skywards for some time, till they were hauled out in that position, no damage being done.

361 Ho Chou (new name T'aoho Hsien) is a pleasant little
634 city lying in a most delightful valley plain, from five to six thousand feet above the sea, sheltered by high mountains, and as fertile as a garden. The mountains to the west and south-west (T'aitzu Shan) are very bold and rocky, and carried a good deal of snow at the time of our visit (middle of July). Ho Chou itself consists of a small Chinese town with large and busy Mahomedan suburbs, containing many fine mosques and seminaries. It is the centre of Mahomedan power and influence in the province, and General Ma Anliang, who actually lives a day's journey or so away near the
634 Yellow River, has a fine residence in the suburb. The
563 Chinese magistrate in the city seems to have little to do

060 meaningless jargon of transliterated Chinese characters, does more harm than good to the cause of Christianity. A translation of the Old Testament, distributed, in accordance with the declared policy of the Bible Societies, without notes or comment, cannot but compare unfavourably with the austerely pure classics of Confucius. In striking contrast to the work of the Bible Societies is that carried on by the Christian Literature Society in its dissemination of wholesome modern literature.

487 From Ho Chou to Lanchou Fu is a three days' journey called 210 li. The road runs in a north-westerly direction [491] across the fertile valley to reach the Tahsia River, which is crossed by a well-built wooden bridge. From here it ascends 133 steeply over hills of loess and red clay for a few hundred feet, and then runs along a ridge between two deep narrow valleys for 35 li to the village of Sonanpa. The divide between the T'ao and Tahsia rivers is crossed just before reaching Sonanpa, a village with inns perched up on the top of the ridge, where we passed the night.

On the following day's march the road continues along an undulating ridge, gradually descending, for four hours' march to the village of Tawant'ou, lying on the edge of the loess mountains overlooking the T'ao River valley, into which the road drops by a long and very steep descent to [361] reach the township of T'angwanch'uan. This place is about half-way between Ho Chou and Lanchou Fu and is the [312] largest centre passed on the way. The T'ao valley in the neighbourhood is irrigated and fertile, but the surrounding hills are bare of all vegetation, and the country is absolute desert where irrigation ceases. The geological formation of the hills, loess superimposed on red sandstone weathered into pinnacles and pillars of all kinds of shapes and designs, presents a most curious sight. In the valley the noonday heat of the midsummer sun reflected off the desert rocks was terrific. The T'ao River, here about 80 yards wide, deep and rapid, is crossed by a ferry, and the road continues north-east through desolate sandy hills to Manp'ing, a miserable village, the end of the stage and 80 li from Lanchou. This place is in the district of Shani, which is mostly desert.

From Manp'ing the road ascends through a desolate rocky gorge and then by steep zigzags to reach the pass over the divide between the T'ao and Yellow Rivers, on the further side of which there is a complete change of scenery, green hills and fertile terraces taking the place of the desert mountain sides. From the pass the trail descends into a ravine, climbs over a mountain spur, and drops steeply to the village of Chiangchia Wan, whence it descends gradually for three hours' march through the loess to reach Lanchou and the valley of the Yellow River. Our tour of South Western Kansu had occupied us about five weeks, during which period we had covered some six to seven hundred miles.

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CHAPTER XI

FROM LANCHOU FU NORTH TO CHENFAN IN THE ALASHAN DESERT, AND THENCE WEST TO ÊPO ON THE KOKONOR BORDER

Through the desert hills to P'ingfan—The Wushao Ling—Kulang—How to raise a mule—Liangchou—Opium suppression—Chenfan—Trails from Mongolia to the Kokonor—Crossing a corner of the Alashan desert—Yungch'ang—The Pien Tu K'ou passage—Êpo—Wool, deer horns, and musk.

480 133 WE left Lanchou on the 17th of July bound for Chenfan, an oasis in the Alashan desert lying ten to eleven days' journey almost due north. For the first week, as far as Liangchou Fu, we followed the Great West Road leading to Turkestan, most of the way a good cart track with accommodation and supplies every 40 to 50 li. From Liangchou to Chenfan the road ran through a string of little oases in the desert.

Leaving Lanchou by the iron bridge the road runs for 30 li westwards up the Yellow River valley, which here opens out into a small cultivated plain, and then turns north up a narrow gorge in the hills for ten li to reach Chuchia Yingtzu, a small village in a desolate region of bare stony hills. From here the track continues to ascend gradually through barren hills of sandy loess, crosses a small pass, and descends to the miserable hamlet of Yuchia Wan, the end of the first stage of 70 li. The surrounding country is nearly desert and the water brackish. From Yuchia Wan the track undulates north-westwards through a maze of bare loess hills, treeless and waterless, for 45 li to the village of Hsienshui Ho, where, as the name implies, a brackish streamlet enables some poor crops to be grown. In Kansu the Yellow River is roughly speaking the boundary between China and the wastes of Central Asia, all the country north-west of it being desert where there is no irrigation. The road continues for another two to three hours' march through these barren hills until it suddenly emerges on to the fertile valley of

the P'ingfan River a few li south of Hung Ch'engtzu, a small 487
walled town and the end of the second stage from Lanchou. 133

From Hung Ch'engtzu to the district city of P'ingfan is a pleasant march of 70 li up the fertile valley, past several villages, including the township of Nan Tatung about halfway. A mile before getting in the old Manchu garrison 712
town of Chuang-lang T'ing is passed, imposing in appearance with its well-built walls, but nowadays an empty shell. The remnants of these old Manchu garrisons in Western Kansu are now, as elsewhere, in extreme poverty. But their existence 563
at any rate gives the province the distinction of being, so far as I know, the only one of the eighteen provinces which contains a resident population of the five races, symbolised by the new five coloured national flag, which go to make up the Republic, Chinese, Manchus, Mongols, Tibetans, and Mahomedans. The Union of Races represented by this flag has hardly become a reality yet; and is perhaps not likely to materialise until the Chinese cease fighting the Tibetans and grant them autonomy as a self-governing dominion of the Chinese commonwealth on the lines of the relationship between Canada or Australia and the rest of the British Empire. P'ingfan is a prosperous little place, the centre of a [361]
rich irrigated valley, and is of some importance as the junction of roads to Lanchou, Hsining, Liangchou, and Ninghsia, the four largest towns of Western Kansu.

From P'ingfan the road continues up the valley with 487
the ruins of the Great Wall on the right hand, the scenery 133
becoming wilder and cultivation and habitations less as one proceeds. Thirty li out the mountains close in on the valley to form a gorge, and shortly afterwards the river is forded to [491]
reach the village and former posting stage of Wusheng Yi, 40 li from P'ingfan. Beyond this place the valley becomes flat and open and assumes a plateau-like character, with patches of cultivation here and there. Another 40 li brings one to the village and ruined fort of Ch'ak'ou Yi, the end of a stage of 80 li. General desolation and ruins are the features of this part of Kansu, intensified to us perhaps by the fact that we rode during the afternoon through a succession of bitterly cold hailstorms, the elevation being close on 9000 feet. The remains of the Great Wall, the ruins of farms, villages, and forts, the abandoned fields in the marshy valley,

487 and the background of bare snow-sprinkled mountains, made up a wild and desolate landscape, the scene of uncounted con-
133 tests between Chinese, Tartars, and Mahomedans in the past.

The trail continues up the valley, which is here a mile or two wide and slopes gently up to grassy downs on either side, for four to five hours' march to an old military post
[491] called Chench'iang Yi. Here the river is crossed by a ford, which must be difficult in rainy weather, and the road, leaving the P'ingfan valley, runs due north over easy grassy slopes for 15 li to gain the Wushao Ling (10,000 feet), the divide between the waters which flow east to join the Yellow River and those which flow north into the desert and fail to reach the sea. Immediately to the west some rocky peaks patched with snow rise to a height of 14,000 to 15,000 feet.
[136] From the pass the road descends, at first over grassy downs alive with marmots, and then by a steep stony track, to the ruined village of Anyuan P'u in the narrow valley of the Kulang River. The Wushao Ling will prove the principal engineering obstacle to the railway which is projected as an extension of the Lung Hai line along the main road towards Central Asia, and will presumably necessitate a considerable tunnel. Otherwise the construction of this extension will be easy compared to the section from Hsian to Lanchou. Fifteen li down the valley brings one to the village of Lungk'ou P'u. This is a long day's march called 90 li (which means 30 miles in Western Kansu) and the track beyond the pass is bad and rocky.

On the following day a short march of 45 li by a rough road down the valley brought us to the district city of Kulang, a small town three-parts in ruins situated at the point where the stream debouches from the mountains on to the plain. Here we were given a typical instance of Chinese administrative methods. One of our mules having fallen lame, we asked the magistrate to be good enough to procure us another animal, which he said could easily be done. We were accommodated in a small yamen and our mules in an inn, and that evening the head muleteer came round in a great state and said that one of our mules had been seized by the underlings from the magistrate's yamen. Explanations were of course immediately forthcoming and the misunderstanding cleared up. The magistrate had instructed his

underlings that a mule must be found, and the latter had 487
gone round to the inn as the most likely place to find a 133
suitable animal, and had simply walked off with the best
one they could lay hands on.

At Kulang one is 120 li, two short marches, from
Liangchou. The road runs at first across a loess plain
dotted with fortified farms past the village of Shuangt'a to
the old posting station of Chingpien Yi, a short stage of 50
li. The villages and post stations on this side of the divide 361
are even more dilapidated than those further east, and are
mostly nothing but a heap of ruins round an inn or two.
The people here seem to have given up living in villages, so
prominent a feature of Chinese life in most provinces, and
occupy the fortress farms with which the plains are dotted.
From Chingpien Yi to Liangchou the road continues across 487
the level plain which is in places almost entirely covered
with loose stones, rendering the going very slow and tiring. 133
On the left hand the view is bounded by the snow-capped
Nan Shan; on the right the plain extends to the horizon. The
twin pagodas of Liangchou form a prominent landmark
denoting the approach to the city.

Liangchou Fu, now known as Wuwei Hsien, is about the
most important city, commercially and politically, in Western
Kansu. It lies in an irrigated plain dotted with fertile oases [512]
between the Nan Shan mountains and the desert of Alashan.
This plain is traversed by numerous streams and irrigation
channels flowing down from the snows of the mountains
to lose themselves eventually in the sands of the desert, and
owing to this never failing supply of water for irrigation
purposes is a very fertile and productive region. The
inhabitants of Liangchou and the surrounding plains are
mostly Chinese; the whole region was devastated during the
big rebellion, and was again laid waste by marauding bands
of Mahomedans from the Hsining neighbourhood during
the rebellion of 1895. The interior of the city is very poor- 361
looking and dilapidated, like most Kansu towns, and the
streets are almost entirely covered with the same loose
stones found outside; riding being the only method of
getting about, these stones are a great drawback to the place.
There is a station of the China Inland Mission at Liangchou 797
which can compete with those at Hsining and Ninghsia for

to cultivation, has of course had a great effect on the good results obtained. It now remains to be seen whether suppression can be maintained after the withdrawal of this foreign stimulus. In the eastern provinces where the upper and middle classes are more or less in contact with the West a strong native public opinion now exists against opium; the same cannot be said of the backward North West; and it is there that the authorities will have to watch for recrudescence of cultivation. As regards the suppression of smoking and consumption generally, the same success has by no means been attained, and in out of the way parts it appears to be indulged in much as formerly. In view of the increasing scarcity of the drug, however, and the rising price, this cannot really be the case, and if suppression of cultivation is strictly adhered to, the existing stocks will gradually be exhausted, and the rising generation will grow up without contracting the opium habit.

We rested at Liangchou for a day, being entertained by 133 the officials, and then left for Chenfan, distant three marches. 487 The first stage was 65 li to a group of farms called Chungchia Ta Men lying on the edge of the desert. For the first three hours the road, a good cart-track, lies through rich irrigated country, and for the rest of the way belts of sandy desert alternate with irrigated fields. The water, where it is not [271] obtainable from irrigation channels, is very brackish. From Chungchia Ta Men the road continues north across a sandy plain between the desert on the right hand and cultivated lands on the left. Farms with wells are passed 20 and 40 li [312] out. Hsiangchia Wan, the end of another stage of 65 li, is a thickly populated oasis on the edge of the desert, lying [361] just east of a range of barren hills which form a prominent landmark from afar. The snow mountains behind Liangchou now fade out of sight. From here to Chenfan Hsien is a distance of 70 li. The trail still runs north over a sandy plain covered with scrub and rough grass with a river on the left hand, the latter formed by the junction of various streams and irrigation channels, and flowing north to water the Chenfan oasis and beyond to lose itself in the sands of the desert. Branches of this stream have to be forded at [491] various points; though quite shallow, they contain dangerous quicksands and should be approached with care. Thirty-five

133 li out cultivation and houses are reached at Kaochia Ta Men,
487 the beginning of the large Chenfan oasis, and for the rest
of the stage the road runs through rich irrigated lands with
occasional excursions into sand dunes.

361 Chenfan Hsien is a prosperous little district city in a
highly fertile oasis. Immediately round the town is a belt
312 of rich cultivation, and patches of irrigated land occur in the
243 desert for 200 li to the north. There are no villages in these
oases, the people living entirely in walled farms. Wheat is
the main crop raised, and the abundant water supply from
the snow-fed streams for irrigation purposes, combined with
[132] an almost rainless climate, appears to assure good crops
with machine-like regularity. Chenfan compares favourably
361 with most towns in Kansu, the streets are clean and well
634 kept, there is a noticeable absence of ruins, and the shops
display a surprising variety of goods. At the time of our
visit the district enjoyed the services of one of the best
territorial officials we met throughout the North West, a
young man who really appeared to have the interests of the
people at heart, and to devote himself as far as lay in his
power to improve their lot. He remarked that the post,
though so isolated, was pleasant enough in the summer, but
that in the winter the north winds from the Alashan desert
were terrible, much worse than the severest winter sandstorms
ever experienced at Peking. The inhabitants of the
surrounding oases seem entirely cut off from the rest of
487 China, and form little self-supporting communities. Chenfan
itself, however, is, strange to say, in direct communication
133 with Tientsin and the coast by means of a much frequented
camel route from Kueihua Ch'eng to Liangchou across the
Mongolian grass country and the Alashan desert. This road,
which debouches from the desert at Chenfan, enables the
Mahomedans of the Ho Chou and Hsining neighbourhood
to communicate with the coast without passing through
Chinese Kansu at all.

From Chenfan we had to proceed to Hsining, the frontier town on the high road to the Kokonor and Tibet. Enquiries showed that we had the choice of two roads, to the north or south of the snow mountains behind Liangchou respectively. As the latter would have meant retracing our steps to Kulang, we decided to follow the former, which entailed going due west until we had got behind the Liangchou mountains, 487 and then dropping south to Hsining along the Kokonor border. There is a shorter trail south-west from Liangchou, 133 passing apparently more or less directly over the snow-range, but we were told that it was very difficult, seldom used, and probably impassable for loaded mules. There are only a limited number of trails leading up from the plains of Mongolia through the Nan Shan to the Kokonor plateau, and the route we followed, though little known to foreigners, is probably one of the most important of these tracks. It reaches the plateau by means of a famous gorge known as the Pien Tu K'ou (meaning Passage across the Frontier), and the section of our route from Chenfan, in the Alashan desert, to Êpo, in the Kokonor, is probably a portion of an important trail connecting Urga with Lassa, placing these two capitals of Lamaism in communication without the necessity of passing through settled Chinese territory. Our first few days' march lay across a portion of the Alashan desert to regain the Great West Road at Yungch'ang, a very trying experience, since the season of the year was the end of July, when nobody travels in the desert if he can possibly avoid it.

The first stage on this road being a very long one of 100 li across the desert, the magistrate had kindly arranged for us to break it into two by sending on tents to some wells 30 li out. Leaving Chenfan the road runs south through the oasis for 15 li, crosses the main branch of the Chenfan River by a ford, and then turns west into the desert. Two hours' march further on we reached the wells of Sha Ching, where we found a luxurious camp established for us by the forethought of the magistrate. The water from the wells is evil-looking and very brackish, but we had arranged to bring sweet water with us. The contrast between these rich 634 oases, such as Chenfan, and the absolutely lifeless desert, 651 lying side by side so that one passes in one stride from the one to the other, is most striking. The great wealth of the irrigated land is evidenced by the fact that the district of Chenfan, though containing so much desert, offers a highly lucrative post to its magistrate; that is to say the land-tax receipts, consisting of grain, are large; the grain collected in this fashion by the magistrate is remitted by him to the

634 provincial treasury in silver at an old-established rate much
651 below the market price, permitting a considerable profit to be made on the transaction. The productiveness of the land is of course entirely dependent on the irrigation streams from the snows of the Nan Shan, the magistrate informing us that he had been nine months at his post and only seen rain fall on two occasions.

487 The following day's march of 70 li to the oasis of Shehsia Kou would have been easy enough had we not lost our way.
133 We started at 3 a.m. in order to try and reach the wells of T'ou Ching, 40 li out, before the sun got too hot. The trail led across a waste of sand hills and soon ceased to exist.
[134] The desert is devoid of all vegetation and lifeless except for antelope, which were constantly in view; what they find to eat I cannot imagine. After we had been marching for some hours the soldier from Chenfan who was acting as guide announced that he had lost the way. Looking for the wells where we were to have our midday halt was like searching for a needle in a haystack, and the position was unpleasant enough. Altogether we wandered round, steering more or less west, for some seven or eight hours, suffering greatly from thirst, with the sand often over the ponies fetlocks. Our only landmark was an ancient ruined tower, the remains of some old fortification in this region, perhaps a part of the Great Wall. At last one of the soldiers sent out to reconnoitre from a rise descried the tents pitched at the wells in pretty well the opposite direction to that in which we were then trekking, and an hour later men and animals were satisfying their thirst. Another three hours' march across the desert brought us to the oasis of Shehsia Kou, where we were comfortably lodged in the interior of one of the fortified farms so common in this region.

The next stage is another desert march of 80 li to the village of Ningyuan P'u, but there is an oasis, Tung Wan, half-way, the going is better, and we took care not to lose
[361] our way. Ningyuan P'u is a walled village at the mouth of an irrigated gorge where the mountains meet the desert plain. From here to Yungch'ang is a distance of 75 li. The trail follows up the irrigated valley for 35 li to the hamlet of Tsungchia Chai, where it turns up a barren stony ravine, crosses a low pass, and descends across an arid sloping

PLATE XXXVIII

133

LOWER END OF PIEN TU K'OU GORGE, LEADING TO THE KOKONOR

TRAVELLING UP THE PIEN TU K'OU GORGE

[Facing p. 163]

plain to Yungch'ang Hsien, a small district city on the mainroad. 487

133

Leaving Yungch'ang the trail runs west up a cultivated valley for 25 li to the ruined village of Shuimo Kuan. Here the stream is forded, and the trail, leaving the high road [491] to Kanchou and Suchou on the right hand, continues up the valley due west, ascending very gradually, for 50 li to Kaoku Ch'eng, an old walled military post surrounded by a ruined village, where we passed the night in the dilapidated yamen of the *Yu Chi*, or Major in the old army of the Green Standard, who still survived in this remote corner of the Republic, though about eight years out of date. Kaoku Ch'eng lies in a broad shallow valley sloping up to the mountains on either side, with very little cultivation. Ruined farms and abandoned fields are numerous, and signs of former prosperity and present depopulation are not wanting. A huge snow mountain is visible lying ten to twenty miles away to the south, apparently part of the snow range behind Liangchou.

Beyond Kaoku Ch'eng the flat valley merges imperceptibly into a rolling grassy plain, bounded north and south by mountains, and uninhabited save for flocks of sheep and occasional antelope. The road undulates due west across this plain, running more or less parallel to the main range of the Nan Shan, a high rocky barrier bounding the Kokonor plateau. For the last ten li there is a descent through cultivated fields to Tama Ying, another old walled military post mostly in ruins, lying on the head-waters of a stream flowing N.W. towards Shantan Hsien. There are several farms of settlers in the neighbourhood, and the barley looked well, though still green in early August (elevation between 8000 and 9000 feet). On this day's march we noticed the ruins of some of the old beacon towers common to the high roads of Kansu, and these ruins, with those of the old military posts, show that this was once an important military road. At Tama Ying we were again quartered in the yamen of the *Yu Chi*, the latter an aged veteran of the Mahomedan campaigns, who was spending the evening of his no doubt active and adventurous life in this remote spot, with only the vaguest ideas of the momentous changes which had come to pass with the disappearance of the Manchu dynasty.

487 From Tama Ying the trail runs south-west across rolling grassy downs, on which cattle and sheep are pastured, 133 gradually approaching the main range of the Nan Shan on the left front. We saw large numbers of antelope on this march and in places the pasturage was extraordinarily luxuriant and the grass up to the ponies' knees. The stage is a short one of only some 50 li and for the last hour the trail runs through fields of barley to reach Maying Tung, another of the old walled forts with which this region is dotted, surrounded by farms and patches of cultivation. It lies close under the Nan Shan, whose rocky peaks rise above the snow-line, and a few li from the mouth of the gorge leading up to the Kokonor plateau. This is the well-known passage through the Nan Shan called the Pien Tu K'ou, and is a remarkable cleft in the huge wall of rock presented by the main range, from which there issues a torrent flowing north towards Kanchou.

From Maying Tung to Êpo on the Kokonor plateau is a long march, called 100 li, which took us over twelve hours. The trail runs across the plain for an hour or two to reach the foot of the mountains and then enters the Pien Tu K'ou, a narrow gorge hemmed in by precipitous mountains. The trail up the gorge is very bad, and is made more difficult by its constantly crossing and recrossing the torrent, which descends in a succession of cascades and, in the summer, is only just fordable. We were told that camels negotiate this road in the winter, when it is probably much easier. Every time we forded the stream I expected our mules to come to grief, the donkeys, which accompanied us in the capacity of grain carriers for the mules, being in places nearly submerged. At length the inevitable happened, and one of the mule litters turned turtle in mid-stream owing to the mules being swept off their feet by the current; all the contents were washed down stream and the occupant, one of the servants, nearly drowned. This incident, and the subsequent collection of as much flotsam and jetsam as we could recover down stream, delayed us for an hour or so. The gorge is uninhabited except for two likin huts which seem to have gone out of business. After some five hours' march the 233 going improves and the precipitous mountains give way to grassy slopes dotted with herds of yak and flocks of sheep

and the black rectangular tents of nomad Tibetans, the usual 233
hinterland of *Ts'ao Ti* (Grass Lands), which everywhere in
the north and west lie behind the border ranges of China.
Apart from the nomads and their ponies, yak, and cattle,
the only sign of life were the huge vultures, which were [136]
extraordinarily abundant. The final ascent to the pass is by
easy gradients, and a similar descent of about 10 li brings 487
one to Êpo, a dot of a place lying in a sea of grass. 133

Êpo (this is the regular romanisation of the Chinese
characters, pronounced Obaw) is a small walled village and 361
former fort situated in a shallow valley sloping from east
to west, surrounded by grassy downs and backed by rocky
snow capped mountains. The elevation is probably between
11,000 and 12,000 feet, and there is no cultivation, the 241
necessary grain being brought up from below. The entire
community, composed of a few Mahomedan Chinese, 233
seemed to be engaged in the collection of wool, with
occasional purchases of musk and deer horns. The latter 381
(wapiti antlers) when old are quite cheap and are collected
and sent down to China for the manufacture of glue; when
in velvet they are extremely valuable and are ground up 886
to form the well-known Chinese medicine for revivifying
the old. This medicine is said to be very powerful, and I
was informed by a member of our party, who here purchased
a pair for a friend, that care must be exercised in taking
a dose to see that the powder comes equally from both
antlers, otherwise there is a grave danger that the patient
may be revivified on one side only! Musk may also be 303
profitably purchased at Êpo, and for some days afterwards
our caravan was redolent with it. Wherever one may pack
a pod of musk it is guaranteed to make its presence widely
known. The advantage of buying musk at a place like Êpo,
apart from its cheapness, is that one is pretty certain to get
the genuine article, adulteration being widely practised in
the trade in China.

Êpo appears to lie actually on the Kansu-Kokonor border 487
(though boundaries are vague in those parts), and its
position is of some strategic importance as commanding
one of the few routes from Kansu and Mongolia up to the
Kokonor, north of Hsining. We were met here by some
Mahomedan braves sent up from the Hsining and Tatung

CHAPTER XII

FROM ÊPO SOUTH ACROSS THE KOKONOR GRASS COUNTRY TO HSINING, AND THENCE BACK TO LANCHOU FU

Grass lands and snow mountains—Gold washing—Kokonor Mongols—Yungan—Pei Tatung—Passage of Tatung River and Tapan Shan—Tatung or Maopeisheng—Chinese place-names in foreign guise—Hsinch'eng and a loop of the Great Wall—Hsining—Chinese control over the Kokonor territory—Kansu wool trade—Kansu ponies—Hsining to Lanchou Fu—Aborigines—Defile of Laoya—Sandstone and loess—Copper—Lanchou water melons.

FROM Êpo the trail runs south for three very long stages, 487
each one probably well over 30 miles in length, across the
grass country on the Kokonor border. Along this border 361
stretches an old line of walled military posts, Êpo, Yungan, 133
and Pei Tatung, which make up the stages, and the grass lands being otherwise uninhabited except by a few nomads, it is necessary for the traveller unprovided with tents to cover each of these long marches in the day.

Leaving Êpo the track runs south-east up the flat grassy valley, which is dotted with the black tents of Tibetan
nomads and countless flocks of sheep. After some hours' 133
march the stream is left on the right hand and the path 487
rises gradually to an easy pass 40 li from Êpo. The view from the summit (between 12,000 and 13,000 feet) is the same on both sides, treeless grassy downs and rocky mountains streaked with snow. Immediately to the south-east rises a gigantic snow mountain, being apparently another view of the snow range which we saw south of Kaoku Ch'eng, and which seems to lie immediately behind Liangchou. There appeared to be thousands of feet of snow on this mountain in early August, and its height must be some 18,000 feet or more. This pass, like the Wushao Ling, is the watershed between the Yellow River and the Central Asian basins, and we also gathered from the soldiers who

133 accompanied us that in crossing it we passed again from 487 the Kokonor territory into Kansu.

From the pass the track drops steeply into a rough stony ravine, the stream in which is followed in a south-easterly direction for the remaining 70 li to Yungan Ch'eng. For the first half of the way the track is very bad, lying down the bed of a stream which is apt to rise in wet weather and render the road impassable; further on the going improves, the gorge opening out on to a flat grassy valley, and the last hour's march is over prairie, spoilt for riding, [136] however, by the countless holes of a small rat-like rodent; in places the ground is alive with these little animals, dodging in and out of their holes like miniature marmots. 316 The bed of the stream flowing down from the pass is apparently rich in gold, and Mahomedan gold washers were at work at various points when we passed. They live in tiny tents and appear to pass a very hard life for small returns. The industry is under the patronage of the leading Mahomedan Generals. We followed the washing in several spots and always saw a few grains of gold dust produced; nuggets are, we were told, occasionally found. We had descended this stream almost from its source, so that in this case the gold-bearing rocks from which the gold has been washed cannot be far off. Very large profits can be made in ordinary times by buying this gold on the Kokonor and selling it in Shanghai.

342 Just before reaching Yungan we passed some Mongol tents, identical in appearance with the felt yurts to be seen 563 in the grass country north of Kalgan, and it seemed strange to come across these people here, whom one associates with summer trips to the north of Peking. The Kokonor territory is the meeting-point of the Tibetan and Mongol races, and here, as elsewhere, the black rectangular tents of the former may be seen almost side by side with the round grey tents of the latter. It appears that the Mongols, who originally [illegible] occupied the country far to the south, are gradually retreating 634 northwards before the encroachments of the more virile Tibetans. Unlike the Tibetans, who are in these parts all robbers by nature, the Mongols are peaceful and inoffensive herdsmen, who give the Chinese authorities no trouble. They are organized into Banners under their own Princes,

nominally responsible to the Chinese officials at Hsining. 563
Mongol tribes are found living in the bend of the Yellow 634
River, near the Golok country, and even as far south as
the country between Jyekundo and Nagchuka towards
Lassa, but appear to have become completely Tibetanised,
and to retain only the tradition of their origin.

Yungan is a replica of Êpo, only poorer, an old walled 361
post with the interior almost entirely in ruins. It lies not 563
far from the Tatung River, surrounded by grassy downs
and overlooked by rocky snow-capped ranges. One is here
on the reverse side of the outer barrier range of the Nan
Shan, the snows of which provide the water for the streams
which fertilize the Liangchou oases. This portion of the
Kokonor border is the meeting-point of the four widely-spread
races of High Asia, Chinese, Mahomedans, Tibetans,
and Mongols.

From Yungan to Pei Tatung is another long march of 133 ●
over 100 li. The trail runs east and then south-east across 487
undulating grass prairies dotted with herds of yak for 45 li
to a solitary inn or ranch known as Paishui Ho, whence
it continues across a plain, gradually approaching the
Tatung River, to reach Pei Tatung. The going is excellent
across grass all the way. Pei Tatung, lying on the left bank
of the Tatung River, is another walled village mostly in
ruins. Barley is grown in the neighbourhood, the first [243]
cultivation met with since entering the Pien Tu K'ou from
Maying Tung. The valley of the Tatung River in this neighbourhood
consists of a rich grass prairie bounded on either
side by rocky snow-capped ranges; to the south the mountains
approach close to the river; to the north they rise on the
other side of the plain. Between Kueitê on the Yellow
River and Kanchou in Western Kansu the Nan Shan
consist of three huge parallel ranges, dividing off the valleys
of the Tatung, Hsining, and Yellow rivers. We were now
between the two highest and most northern of these ranges.

The following day's march occupied us from dawn till
eight o'clock at night, the distance being called 100 li but
entailing the passage of the Tatung River and of a high
pass known as the Tapan Shan. The river, some eighty 133
yards wide (in August), deep, and very rapid, has to be
crossed immediately on leaving Pei Tatung. Men and loads 487
491

491 are ferried across on a small raft of inflated skins (called
p'ifatzu), but the animals have to swim. Owing to the
133 rapidity of the current and the frail nature of the skin-raft
(a light wooden platform resting on nine blown-out yak
487 hides) the passage is rather exciting. Inducing the animals
to swim across was a long and tedious business, and not
without danger for them, but all our mules and ponies were
eventually got across with no worse damage than one pony
lamed. The water was icy, and the wretched animals were
shivering with cold when they emerged, notwithstanding
487 the season of the year, which was mid-August. Leaving the
river the path enters a narrow gorge in the mountains and
133 almost immediately commences to rise steeply. From the
river to the top of the pass (between 13,000 and 14,000 feet)
is a hard climb of four hours or so by a bad rocky trail. The
summit is a narrow ridge of bare rock composed of bright
green and red slabs of shale. We missed the view as we
reached the pass in a bitterly cold snowstorm, through
which I caught a glimpse near the top of some animals
which looked like wild sheep. This range is known locally
as the Tapan Shan, and is a most formidable barrier. It
821 is noted amongst the Chinese for its noxious vapours, which
are supposed to rise from the ground on the higher slopes,
and most of our party crossed it with scarves wound round
their faces; it is a waste of time trying to explain even to
educated Chinese that the air is not noxious, but only
rarified; they have not the least objection to your believing
in the rarified air theory, but intimate that they know better.
My experience of high passes on the borders of Kansu
and Szechuan is that the effects of rarified air are much
worse on the razor-backed passes, like the Tapan Shan,
than on even higher divides which are approached by easy
slopes.

The ascent of the Tapan Shan is steep enough, but the
133 descent on the other side is much worse, and the trail
487 very rough and rocky. Eventually a gorge is reached,
which is followed for three hours' march to a solitary
Mahomedan inn called Tuchia T'ai. By the time we reached
485 this spot, although the snow had turned into rain as we
descended, and then ceased altogether, everyone was pretty
well tired out; but the accommodation was limited, and the

canny Mahomedan innkeeper, seeing such a large party of 485
officials and soldiers (everywhere unwelcome guests owing
to their custom of helping themselves to what they want and
not always paying for it), assured us it was only 30 or 40
li to Tatung Hsien by a good road; so we took the road 133
again after a rest, and had another weary six hours' march
before getting in. The road lies down a narrow picturesque 487
valley, in which trees, farms, and cultivation make their
appearance again, and finally debouches on to a broad and [241]
fertile valley, closely cultivated and thickly populated, which
is crossed to reach Tatung Hsien. I have but the vaguest
idea of the latter part of this long march, which was finished
by the light of lanterns in the dark, beyond remembering
that we forded a stream running in various branches just
before getting in, and narrowly missed taking an evening
bath on more than one occasion.

Tatung Hsien is a prosperous city, the centre of a fertile 361
corn-growing valley populated largely by Mahomedans. The elevation is about 8000 feet and the wheat was ripening for harvest during the middle of August. It reminded us somewhat of Ho Chou. Being comfortably quartered here in an old military yamen, we enjoyed a welcome day's rest. Tatung Hsien is also known locally by its old name of Maopeisheng, and usually appears on foreign maps under that name in various guises. If a traveller in China, unacquainted with Chinese characters and their usual romanisation, writes down the names of places as they sound to his ear, the results are often unrecognizable; further confusion is entailed by the varying forms of romanisation in use in different European languages. There are several townships called Tatung in Western Kansu; they are sometimes distinguished by being referred to as Tatung Hsien, Nan Tatung, Pei Tatung, and Hsi Tatung, but confusion often results.

From Tatung to Hsining is a distance of 110 li by a good 487
cart track down a fertile and well-cultivated valley past 133
numerous farms and villages. The march may be divided
into two by halting at the walled township of Hsin Ch'eng,
40 li out, where the valley narrows to a defile and is barred
by an old wall with a gate and the inevitable likin barrier. 712
This is considered by some to be a branch of the Great

712 Wall; if this is so, the old gate and wall at T'ungmen Kuan,
between Labrang and Ho Chou, is probably a portion of
the same loop, which must have been constructed to protect
the Hsining region against the incursions of Tibetans or
Mongols from the Kokonor, and the course and history of
133 which it would be interesting to trace. The road eventually
debouches on to the city of Hsining, lying in a small cultivated
487 plain of loess formed by the junction of three valleys, the
Pei Ch'uan from Tatung Hsien, the Hsi Ch'uan from Tanko
T'ing, and the Nan Ch'uan from T'a-erh Ssu (Kumbum),
the combined streams going to make up the Hsining River.

[361] Hsining is one of the chief cities of Kansu, being the
[241] centre of a region of fertile corn-growing valleys, producing
wheat, barley, and particularly beans. Its commercial
439 importance arises from its position near the Kokonor
648 border, and together with Tanko T'ing, a day's journey
further west, it commands the bulk of the valuable Kokonor
trade in skins, furs, deer horns, musk, gold, and particularly
wool. A state of passive hostility has reigned between
China and Tibet since the collapse of Chinese power
in Lassa consequent on the revolution, and the Szechuan-Tibetan
trade through Tachienlu has suffered greatly
thereby; the Hsining and Tanko trade, on the other hand,
has continued uninterruptedly throughout these troubles,
and has perhaps even increased. As elsewhere on this
border this trade is largely in the hands of the Mahomedans.
487 Before the Mahomedan rebellion of 1860–70 the Hsining-Kokonor
road to Lassa was the most frequented route
between China and Tibet, but was then replaced by the
Szechuan road through Tachienlu; now it is coming into
361 its own again. The interior of the city is fairly prosperous in
appearance as far as Kansu towns go, but by no means
indicative of the commercial and political importance of the
place. The east suburb, the former Mahomedan quarter, is
still completely in ruins, a relic of the last Mahomedan
rebellion in 1895, when the city successfully withstood a
siege by the rebels. The walls are particularly formidable
and well built.

636 Hsining, as well as being the seat of a Taoyin and a
Mahomedan General, has always been the residence of the
high Chinese official controlling the immense territory of

similarly on the grass lands north of Peking a *Hsi K'ou* 231
Ma (pony from the Western Passes, i.e. Kansu) is a drug 492
in the market; and both are useless on the stone paved paths south of the Ch'inling Shan, where the diminutive stallions of Szechuan, Yunnan, and Kueichou alone are employed. Small horses from Turkestan are also often seen in Kansu, but they are not as satisfactory to use as the native ponies. A *sine qua non* of all travelling ponies is that they should be able to *tsou,* which means the smooth amble or pace of four to five miles an hour always used by the travelling horseman in Eastern Asia; a pony that cannot *tsou* is practically worthless as a mount in Chinese eyes, and the reason will be apparent to anyone who has tried to do a long journey on a pony which has no pace between a slow-walk and a slow trot.

From Hsining to Lanchou there are two roads, a cart 487
track *via* P'ingfan in eight stages, and a mule road down the
Hsining River in six stages; we followed the latter. The 133
first day's march is one of 75 li down the valley, which is most of the way a mile or so wide and bounded by bare dreary hills of loess and red sandstone patched with a white
alkaline efflorescence, to the village of Changch'i Chai. [361]
Twenty-five li out at the hamlet of Hsiaohsia K'ou the hills close in to form a short defile, and the road crosses the river by a good bridge. Much of the valley is an arid waste like the hills, as the river runs part of the way in a trough at a lower level, thus rendering irrigation impossible. The next stage is one of 80 li to the village of Kao Miaotzu. The trail runs down the valley, fertile where irrigation can be practised; it passes through a rocky defile 15 li out and reaches the small district city of Nienpo 50 li out. Occasional glimpses are caught of the high range to the south separating
the Hsining River from the Yellow River. There is a curious [563]
mixture of races in this neighbourhood, including some people locally called *T'u Jen,* who were described to us as "tame" aborigines, and some Mahomedans who are said to speak a Mongolian dialect. There is plenty of subject matter for the ethnologist's study in Western Kansu, as in Western Szechuan and Yunnan.

From Kao Miaotzu the road continues down the cultivated valley for 20 li to the village of Laoya. Here the

487 valley narrows to a rocky gorge, and the cart track branches off towards P'ingfan. The mule trail through this defile, 133 which is some 40 li in length, is a nightmare of a path, especially in wet weather, being very rough and narrow, ledged in the cliff side above the roaring waters of the Hsining River; two-thirds of the way through there is an opening and an inn, Yangchia Tientzu, where we had a welcome rest. From the eastern end of this gorge to Hsiangt'ang, the end of the stage, is a distance of ten li. The peculiarity of the valley in this neighbourhood is that the cultivated fields are entirely covered with large stones which are placed there on purpose, in order, we were told, to [244] preserve the moisture in the ground. These stone-covered fields produce most excellent melons of various kinds, and the sight of the huge juicy fruit apparently growing out of bare stones is a remarkable one.

Just below Hsiangt'ang the Tatung River is crossed by [491] a good wooden bridge at the point where it debouches from a defile in the mountains on to the valley of the Hsining River; it is here less than twenty yards wide, but very deep and rapid, and flows between almost perpendicular cliffs of rock; though it contains much the greater volume of water, it joins the Hsining River in the form of a tributary, issuing from a cleft in the mountains on to the open valley of the latter. From here the trail continues down the arid valley, being rough and stony most of the way, especially where it climbs in and out of side nullahs or ascends the face of the cliff. Fifty li out a ruined wall and fort are passed, barring the valley at a narrow point, and just before reaching the village of Hotsuitzu, the end of a stage of 75 li, the river washes the left-hand side of the valley, and the weary traveller is forced to follow a narrow footpath high up the face of the sandstone cliff; here a block of sandstone, becoming detached from higher up on the cliff and hurling itself into the torrent below, only missed by a few feet bringing the career of the principal member of the expedition to an abrupt termination. The valley round the village of [361] Hotsuitzu is desolate in the extreme, bare red sandstone with a layer of yellow loess superimposed like icing on a cake. It is difficult to persuade oneself that this loess was not laid down by water. One of the arguments in favour of the aerial origin of the loess is the absence in it of fossil 487 shells of water animals; but so far as I know such fossils 133 are equally absent in re-deposited loess obviously laid down by water. If the great rivers of South America have deposited the soils of the Argentine pampas, there seems little reason to doubt that the Yellow River has done the same for North China. The desert mountains round the lower end of the [135 Hsining River valley are rich in copper, and before the 316] Revolution a mine was being worked in the neighbourhood with the assistance of a foreign engineer and foreign machinery; it appears to have suffered the fate common to all Chinese official enterprises of this nature, but its failure was not, so far as I am aware, due to any deficiency in the quality or quantity of the ore.

From Hotsuitzu the road continues down the valley which debouches on to the Yellow River 55 li further on. The latter can be crossed by a ferry here, but the path [491] usually followed ascends through a desolate defile past a number of salt pans to a loess plateau, whence it descends to a ferry. The Yellow River is here some 200 yards wide and is crossed by means of a large ferry-boat taking animals. A further hour's march down the Yellow River valley through irrigated fields brings one to the township of Hsin Ch'eng, the end of a stage of 75 li.

From Hsin Ch'eng to Lanchou Fu is a march of 70 li by a good road down the valley through fertile irrigated fields backed by desert hills. This stage can be accomplished [501] rapidly and easily by taking passage on one of the small skin rafts, numbers of which descend the river in the month of August laden with water melons for the Lanchou market. These rafts, composed of a light framework resting on a few inflated skins, are usually small enough and light enough to be carried back up stream on the shoulders of their owners. We were fortunate in striking the valleys above Lanchou during the height of the melon season. The dry 244 heat in these arid valleys at that time of the year was at times truly terrific, and the melons, of which we consumed large quantities on the road, were delicious. The best melons in China are grown in this neighbourhood. We found four varieties; the *tsui kua* and the *hsiang kua*, small and very fragrant sweet melons; the *hsi kua*, the ordinary

CHAPTER XIII

FROM LANCHOU FU DOWN THE YELLOW RIVER TO NINGHSIA AND PAOT'OU, AND THENCE OVERLAND TO KUEIHUA CH'ENG AND RAILHEAD

Yellow River rafts—Currency in the North West—Through the desert hills to Powan—Kansu mules—Sandstone caves on the Yellow River—Chingyuan—Gorges and rapids—Goral—Wufang Ssu—Chungwei—Rafts abandoned for boats—Kuangwu gorge—Irrigation works—Chinch'i and Mahomedan rebellion—Steam and motor navigation on the Yellow River—Ninghsia—Yuan Shih-k'ai's attempt to become Emperor—Wool boats for journey to Paot'ou—Shihchu Shan (Shihtsuitzu)—The Ordos—Mongol brigands—Liquorice root—Paot'ou—Tibetan lamaism in Mongolia—Kueihua Ch'eng—Feng Chen and railhead.

After returning to Lanchou from Hsining we had finished our work in Kansu and were free to choose the easiest way back to the coast. Needless to say after so many months on the road we decided to return by the Yellow River. For some distance below Lanchou the river breaks its way through a series of mountain ranges, flowing in alternate gorges and rapids, and Chinese travellers taking this route usually go overland to Chungwei, about eight days' march, and take boat from there. The prospect of another long desert journey was not attractive, however, and at first we decided to start on the river from Lanchou itself and chance the rapids; but were eventually persuaded to go overland for three days' march to a village called Powan, thus avoiding the most dangerous rapids which occur immediately below Lanchou. From all I heard on the subject I gather that these rapids really are very dangerous; certainly the ones between Powan and Chungwei are quite exciting enough. 487 133

The safest way of descending the rapids of the upper Yellow River is by large rafts, which stand a great deal of knocking about amongst the rocks and rapids without breaking up, and the officials had very kindly arranged for four of these rafts to be placed at our disposal, two for the ponies and two for ourselves. These rafts were thirty to [502] 501

[P. 179]

501 forty feet in length by ten to fifteen in breadth, with the lumber piled up in the centre to form a platform a foot or so above the water, on which we pitched our tents; I have seldom struck a pleasanter method of travel in China, the only objection being the floor of pine logs, which meant that if one dropped any small article it was irrecoverable except by taking the raft to pieces. We subsequently learned that we had been lucky in securing particularly fine rafts, as they consisted of a flotilla of telegraph poles *en route* from the Kokonor forests above Hsining to Ninghsia for the construction of a new telegraph line from that place across the Ordos desert to Paot'ou.

431 We were delayed a few days in Lanchou while our rafts
were being got ready and various other preparations being
made. It is as well to put a few days' provisions on board
to last till one gets to Chungwei; all kinds of presents were
thrust upon us in the way of supplies by our hospitable
hosts, the Governor and his staff, including a skin bag of
the famous dried apricots which are thus exported from
Central Tibet—or perhaps they even come from India.
436 A new supply of silver had also to be secured, for at the
time we were in Kansu the old-fashioned lumps of silver
and strings of cash were still the only currency available;
two years later travelling in Shensi and Szechuan we were
able to use silver dollars and copper cents even in the most
out of the way parts, a great convenience; the buying up
of the cash for the export of the copper they contain, which
is now going on so extensively throughout China, may be
illegal, but it is hardly to be regretted by the tourist in the
interior, if it means the gradual disappearance of this dirty
and cumbersome form of currency.

487 We finally left Lanchou on August 26 on our overland
march to Powan, distant three marches of 65, 80, and 70 li
● 133 respectively. The road runs down the left bank of the Yellow
River for about 15 li, and then, turning north up a gully,
winds through a maze of low waterless hills of loess for the
[36] rest of the way to the walled village of Ch'ang Ch'uantzu
in the valley of a brackish rivulet, the end of the first stage.
The second day's march is through similar desert hills to
the hamlet of Hsikou. In places the small shallow valleys
are cultivated and produce millet and inferior melons, but

the landscape is dreary in the extreme, the population scanty 133
and miserably poor, supplies non-existent, and the water, 487
where it is found, brackish. The third day's march is through
similar country until, 50 li from Hsikou, the trail debouches
from these barren hills on to a small irrigated plain alongside
the Yellow River, which here issues from a cleft in the
mountains; at the further end of the plain lies the long
straggling village of Powan. To the north and south are [361]
bare desolate mountains.

At Powan we abandoned our train of Kansu pack-mules. 492
These particular mules, each carrying between two and three
hundred pounds, had accompanied us for three to four
months, during which period they had covered over 2000
miles without a hitch, with never a sore back, and never one
sick or lame. The Kansu mule is perhaps the finest in the
world; his only drawback is that he requires a lot of grain
and does not do well in the grass country. The muleteers,
Kansu men, walked the entire distance and never gave us
any trouble whatsoever; both they and their animals seemed
capable of going on for ever as long as they both got plenty
to eat. The Kansu pack-mules are all entires, and their
strength and endurance are simply astounding; the mares
are worked in carts.

We found our rafts waiting for us, having accomplished 501
safely in a few hours the journey which had taken us three
days. Two of them were fitted out to take our ten ponies,
and two others had tents pitched for our accommodation;
another carried the soldiers of our escort, and two more
were laden with odds and ends of merchandize belonging
apparently to the owner of the lumber. By midday the
whole flotilla of seven were swirling down the river under
the autumn sun, and as we reclined in front of our tents
and watched the sandstone cliffs shoot by after so many
months of mountain and desert we felt thoroughly at peace
with things generally. The river flowed between low hills of 133
red sandstone with loess superimposed, grass covered on
the right bank and desert on the left. In places small [376]
plains, like that in which Powan lies, opened out on either
side; they were always irrigated by huge water wheels, of
exactly the same type as those so common in Szechuan, and
their green trees and fertile fields formed a striking contrast
to the background of desert hills.

06-5 to the background of desert hills. The red sandstone cliffs bordering the river are pocked with square caves similar to those on the Min River and other streams in Szechuan. 342 The origin and use of these caves, whether they are old tombs or the former dwelling-places of an aboriginal race, are, I believe, still unknown. Here on the Yellow River several of them were inhabited and provided with ropes and ladders as means of access. I should have liked to have visited the inhabitants, but it was quite impossible to stop the heavy rafts in the swift current under the base of a perpendicular cliff of rock; it is very strange that anyone should want to live in a cave half-way up a sandstone cliff overhanging the Yellow River, with no other means of access but a rope or ladder up or down the rock, unless it be the inherited custom to do so, or as a refuge against robbers. In my experience these square-faced caves, which are of an entirely different style of architecture to the round-arched caves in the loess in which millions of Chinese still dwell, are only found in the faces of sandstone cliffs overlooking rivers.

[361] Three hours below Powan we reached the district city
487 of Chingyuan Hsien on the right bank of the river; it lies on an old main road from Shensi to Lanchou *via* Haich'eng
● 133 which was in general use before the construction of the present road across the Liupan Shan, and appears still to
[484] carry a certain amount of traffic, mostly camel caravans. The valley opens out in this neighbourhood and there are cultivated strips along both banks for a space. Four hours
133 below Chingyuan the river, hitherto flowing north-east, is running north-west between sandstone cliffs owing to the incidence of a range of mountains on the right front; the range appears to me to connect the main Nan Shan range with the Liupan Shan, which itself seems to run S.E. to join the Ch'inling Shan near Paochi, thus forming one continuous barrier trending across North West China from N.W. to S.E.; but this is only a guess. Near here we tied up for the night to some rocks on a shelving sand-bank.

Two hours further on the mountains are reached and the river enters a series of bare rocky gorges hemmed in by precipitous cliffs of red sandstone and shale, opening out in places to reveal a desolate wilderness of reddish mountains

133

without a scrap of vegetation. A little gold-washing is [316]
carried on in this neighbourhood. There were numerous rapids, over which our rafts rode triumphantly. Navigation, carried out by sweeps at the bow and stern, consists in avoiding 502
the rocks and sand-banks and keeping the raft clear of the cliffs where the river swirls round a corner. Unless engaged in a particularly fierce rapid but little attention is paid to these cliffs, and on several occasions my raft crashed against the perpendicular wall of rock in a way which would have smashed a boat to pieces, but without doing any damage beyond shifting a few telegraph poles. In the bad rapids, however, where the water is heaped up into the centre of the river in a tongue like the big rapids on the Upper Yangtzu, great care is taken, since the pace is so tremendous that the raft could scarcely survive the impact with a large rock. Towards evening we noticed large numbers of goral 136
(or wild goat of some kind) in these gorges, clambering about the precipitous cliffs in tens and twenties; one could have shot any number from the raft, but it would have been impossible to stop and retrieve them.

These gorges last for six or seven hours, until finally 133
a picturesque temple on a bluff overlooking the river marks the exit from the gorge and the approach to Wufang Ssu, a boating village in a small plain on the left bank of the river. Sheep are grazed extensively on the semi-desert [234]
hills in the neighbourhood, and wool is collected here and shipped down river for the Tientsin trade.

From Wufang Ssu the river flows east and north-east again. Two hours further on another long gloomy gorge, with many rapids and whirlpools, is entered, the passage through which takes seven to eight hours; coal is exposed in the cliffs in places. At length the mountain walls give way to huge sand-hills and then to an irrigated alluvial plain, and two hours further on Chungwei Hsien is reached. Chungwei, lying inland about five li from the left bank of the river, is quite an important town, the centre of a rich [312]
fertile region where the desert is irrigated by canals from the Yellow River, and also a market for the wool trade.

Below Chungwei the Yellow River becomes a broad stream obstructed by sand-banks and shallows, flowing through an immense plain dotted with low hills and irrigated stretches.

000 stretches. So far our river journey had been a complete success; but now things began to go wrong, and we spent
502 three days making a few miles owing to the rafts constantly running aground, when, owing to their unwieldy weight, it was an extremely difficult matter to move them. The culminating misfortune was a tremendous storm of rain and wind one night, which blew our rafts adrift and scattered them over various sand-banks miles apart in impossible positions. We decided therefore to abandon them, and an appeal to the Chungwei magistrate having produced a couple of small boats, we transhipped our effects, sending the ponies overland to Ninghsia, distant a few days' journey. To be on board a raft stuck on a sand-bank in the middle of the Yellow River for two or three days is a good test
136 of one's patience. I at first passed the time by shooting geese, which here began to appear in some numbers, but had to desist as no one would eat them; the Chinese goose, though a magnificent bird to shoot, is very tough and stringy to eat, and is only palatable if carefully cooked and stuffed. Fortunately the banks were here irrigated and inhabited
312 and one could buy grain and vegetables. Our water supply, as all the way down, was the river; we had no filters, but a pinch of alum in a bucket soon changes the yellow pea-soupy liquid into clear water; another method of eliminating the yellow mud is to scoop a small hole in a pebbly bit of beach, which immediately fills with clear filtered water.

312 Making a fresh start in our small boats we floated down stream rapidly past several villages for some twelve hours
133 to the walled township of Kuangwu, where the cultivated
361 strips on both banks come to an end, and the large irrigation canal, which commences above Chungwei, rejoins the river. The abrupt cessation of these irrigated lands is due to a range of low mountains through which the Yellow River here breaks its way, and which separate the irrigated plains of Chungwei and Ningan from those of Ninghsia and Chinch'i. The desert everywhere begins where irrigation ceases. The passage through the gorge in these hills below Kuangwu takes about an hour, the exit being marked by temples on either side, and the river emerging on to a vast plain. A couple of hours further down we tied up at a village on the right bank not far from the district city of

Chinch'i, where we were able to examine some of the 312
wonderful irrigation works which render these huge plains, 133
otherwise desert, so fertile. There are similar works on
the other bank near the village of Tapa. Their destruction 361
would turn one of the richest plains in North China into a desert. In the North West irrigation is the key to agricultural prosperity, and though the ancient Chinese have done so much in this region, modern engineers could probably accomplish wonders in turning immense areas of what is still desert into fertile lands. Especially lower down, where the river makes its great bend round the Ordos, there would seem to be great openings for modern irrigation works.

Chinch'i Hsien, formerly known as Chinch'i P'u or [361]
Ningling T'ing, is a Mahomedan centre, and was the chief
rebel stronghold in the great rebellion. The Mahomedans 563
are still very powerful in this region, where their settlements 669
extend south through Haich'eng and Kuyuan to P'ingliang in Eastern Kansu. T'ung Fu-hsiang's family own large estates in the neighbourhood, which they appear to have acquired after the capture of Chinch'i in 1871 by the latter. This event was the beginning of the end of the rebellion in Kansu, which led to the eventual defeat of Yakub Beg and the recovery of Chinese Turkestan; had the Kansu Mahomedans held out, the reconquest of Central Asia would have been rendered impossible, and the fall of Chinch'i constitutes therefore an event of the first importance in Chinese history.

Shortly before reaching the neighbourhood of Chinch'i 501
we noticed, much to our amazement, a small stern-wheel steamer tied up to the right bank. An examination through glasses showed her to be a mere rusty skeleton, and our boatmen said she had lain there for years. From subsequent enquiries in Ninghsia we learned that this vessel represented an attempt, made just before the revolution, by the Kansu Viceroy with the assistance of a Belgian gentleman to establish steam navigation on the upper Yellow River. A small river steamer was purchased, transported in sections at great expense overland and put together at Paot'ou. She seems to have made one trip up river, reaching with great difficulty the spot where she is now, and where she is likely

501 to remain until she falls to pieces. The Revolution was probably partly the cause of the abandonment of this progressive enterprise, as has been the case in so many others.

502 The shifting channel is said to be the chief obstacle to steam navigation on the upper Yellow River. There should,
133 however, be a profitable opening for motor boats between Ninghsia and the important mart of Paot'ou, or even from Chungwei down to Hok'ou where the river takes its southerly bend and enters the Shansi mountains. Above Chungwei, to Lanchou, a special type of high-powered shallow draft vessel, similar to that in use on the upper Yangtzu, would be required to overcome the rapids, and the volume of trade and traffic is not likely to justify such an enterprise for many years, if ever. But with the Kalgan-Kueihuach'eng railway pushing on towards the Yellow River and Paot'ou, a motor boat service from that place to Ninghsia would revolutionise the existing means of communication between the coast and Kansu and the North West. Paot'ou is an entrepôt of increasing importance for the import and export trade of the North West and there would be no lack of traffic; the one great objection would be the suspension of the service in the winter. It usually takes months nowadays to reach Ninghsia from the coast going up stream; with a combined motor boat and railway service, even if the latter stopped short at Kueihua, it could be reached in a few days. Below Hok'ou and the southern bend of the river steam or motor navigation is out of the question owing to the many gorges and rapids, one of which, we were told, near the Yümen K'ou, amounts to a small waterfall. Below Yümen K'ou (Lung Men) the gorges come to an end, but beyond T'ungkuan, where the river turns east, more rapids occur, including those at Sanmen, which are said to be impassable for upward bound boats. The navigable section of the upper Yellow River is therefore confined to the Hok'ou-Paot'ou-Ninghsia-Chungwei section, which, however, forms the necessary link between Kansu and the Kalgan railway extension leading to the coast.

133 Below Chinch'i the river is a broad and placid stream
487 flowing between irrigated and densely populated plains. Beyond Ling Chou the land on the right bank rises, irriga-

tion comes to an end, and the fertile plain gives way to a 133
sandy waste. Eventually, after some twenty-seven to thirty 487
hours of actual drifting down stream from Chungwei,
exclusive of halts, we reached the walled fort of Hung
Ch'eng, which is, so to speak, the port of Ninghsia, lying [534]
on the right bank at the point where the Great Wall and the
main trail from T'aiyuan *via* Suitê to Ninghsia strike the
Yellow River. Behind it the land rises in sandy uninhabited
downs, the beginning of the Ordos desert. The river is here
about three-quarters of a mile wide and is crossed by a ferry. [471]
Ninghsia lies 40 li inland on the opposite side.

As our ponies had not yet turned up on their overland 487
journey from Chungwei we found ourselves stranded on
the river bank opposite Hung Ch'eng, until the Ninghsia
authorities, learning of our arrival, sent some animals down
to meet us. The trail to Ninghsia leads across a strip of
waste land five li in extent stretching along the river, and
then runs for the rest of the way through irrigated fields,
mostly under rice, traversing several large irrigation channels.
There is probably more rice (though of an inferior kind) [243]
grown on the Yellow River plains between Ninghsia and
Chungwei than anywhere else in China north of the Ch'inling
Shan; but also this was the only region in Kansu where we [136]
were troubled by mosquitoes, the elevation being under
4000 feet. We spent a few days in Ninghsia, being hospitably
entertained by the Mahomedan General and other officials.
It is a large town, and a political and commercial centre of
some importance, but the interior is very dilapidated and
poor-looking. It is the centre of trade with the Mongols 439
of the Ordos and the Alashan (the latter really the name of
a Mongol state rather than a mountain range), chiefly in
wool and sheep and goat skins; a particularly fine lambskin, [981]
called *t'anyang p'i* is a noted local product, as well as
felts and carpets. An old Ninghsia rug is of considerable [286]
value anywhere. The local Mahomedan General, Ma Fu-hsiang,
who is also a sort of Military Governor of North-Eastern 635
Kansu, is one of the leading Mahomedans of the
Province, and represents a fine soldierly type of Chinese
Moslem. He served under T'ung Fu-hsiang in Peking in
1900 and commanded the Dowager Empress' escort on the
retreat to Hsian. The Manchus had no more loyal servants

501 house-boats; they are used for the conveyance of the wool down stream, and are as often as not tracked up empty. For the convenience of future travellers on this route, it may be stated that the hire of one of these large boats from Ninghsia to Paot'ou should be about 35 taels, and of a small boat or raft from Lanchou to Ninghsia about 25 taels; but with a limited amount of baggage the journey can be accomplished very much more cheaply by hiring accommo-
502 dation on a laden wool boat. The rapidity of the journey depends on the amount of wind met with, as with high winds, which are frequent in the Ordos, the clumsy scows are blown ashore or on to sand-banks, and have to tie up till the weather calms. Night travel is possible part of the way round the Ordos. It is a peaceful journey, navigation consisting in keeping the boat more or less in the middle of the current and watching the banks drift by. The boatmen are mostly Mahomedans, and thoroughly up to their job. We were much delayed by wind and other causes and took ten days to get to Paot'ou, the actual floating time being about 100 hours.

• 133 We finally left Ninghsia, or rather Hung Ch'eng, on September 9th and reached Shihchu Shan in the evening of the following day. The weather, as all the way down the river, was beautiful, cold in the early mornings, but brilliant sun during the middle of the day. Between Ninghsia and Shihchu Shan the river is a broad and placid stream with many shallows and islands. On the right hand is sandy desert, the Ordos, now included in the "Special Territory" of Suiyuan; on the left hand the land is still a part of Kansu province, a strip of waste land along the river, behind which lies the irrigated belt, with cultivation, trees,
[136] and houses, backed by the Alashan mountains. In places the sands were grey with geese. Shihchu Shan, locally
439 known as Shihtsuitzu, is an unwalled township built of mud, which appears to owe its existence to the wool trade.
236 It is a weird and desolate little place, lying on the left bank at a point where the Alashan mountains and a low range in the Ordos converge on the river, which narrows to a few hundred yards in width. All around are desert hills. The community, consisting of the native agents of the foreign wool exporters of Tientsin, is engaged in drying and re-

packing the wool which comes down from Western Kansu [439]
by boat on the river and by camel overland, and in collecting [236]
local produce from the Mongols. The overland trail from
Paot'ou, eight to ten marches from well to well across the 487
Ordos desert, here strikes the Yellow River, crosses by a ferry, and continues up the plain to Ninghsia. Supplies must be laid in at Shihchu Shan to last to Paot'ou, little or nothing being obtainable in the Ordos *en route*.

Leaving Shihchu Shan we passed finally out of Kansu 133
into the Ordos. The river runs for some hours with a rapid current between bare mountains, which gradually recede and give way to sandy desert. After about twelve hours drifting down stream Tengk'ou, a desolate little village in the desert on the left bank, is reached, and some eight hours further on the township of Santaohotzu is passed, where
there is a Catholic Mission and a considerable Chinese [797]
population engaged in agriculture round the old branches of the Yellow River. The river banks on either side are lined much of the way with a belt of willow scrub, which furnishes a most useful supply of fuel to the boats going up and down.
The current is fairly strong through the Ordos, considering 502
the level nature of the country, but we were frequently compelled to tie up to the bank to wait for the wind to drop. On one of these occasions my five ponies, which were being exercised on the bank, took alarm at something and galloped off into the desert. We followed them for miles, and then lost their tracks on some hard stony ground. The country was desert without a sign of life except for numerous antelope and an occasional camel turned out for the summer, and the boatmen expressed the opinion that we should never see the ponies again unless we chanced on them further down stream, as though they had galloped off inland they would be bound to return to the river for water. On the following day after having drifted many miles further down we fortunately spied a Mongol watering his camels on the bank, who turned out to have met the ponies inland, and they were soon recovered, very hungry, thirsty, and tame.

Lower down we met again and again with the most violent winds, necessitating long and weary delays in the desert. There was some trouble with Mongol brigands going on in this neighbourhood, and on one occasion shots

502 were fired at us from the bank, though our boatmen and
escort were uncertain whether they came from brigands or
from soldiers signalling us to stop; the river being wide,
however, and the current swift we did not trouble to enquire.
439 In many places when tied up to the north bank we found
the ground pitted with small holes, the work of the liquorice
222 root diggers. This is an old industry which has revived
considerably of late owing to a foreign firm commencing
to buy the produce for export. The liquorice-producing
areas in the world appear to be limited in extent, and this
is one of them. Twenty-four hours above Paot'ou the Wula
● 133 Shan mountains are reached, a bare rocky range running a
little inland along the north side of the river, and a
prominent landmark from afar. In this neighbourhood the
Ordos bank, hitherto uninhabited desert, begins to be
populated, and Mongols and Chinese are to be seen with
many camels, sheep, and ponies grazing on poor-looking
downs. As Paot'ou is approached farms and villages become
numerous on the north bank, and the plain between river
and mountains is a vast corn-field.

361 Paot'ou Chen (also known as Hsi Paot'ou) is a large
walled town lying a little way back from the Yellow River
243 in the corn-growing plain which slopes up towards the
Tach'ing Shan, a continuation of the Wula Shan. It is
remarkable in many respects; in the first place it is essentially
a new and growing place, unlike the dilapidated and hoary
old towns of Kansu, and is the centre of a fertile corn-growing
area which a generation ago was unoccupied except
by a few Mongols and their flocks. There is probably
plenty more good land waiting to be opened up further
west, north of the Yellow River, and the curious spectacle
may here be witnessed of the Chinese colonising Canadian-like
prairies within the borders of their own republic.
439 Secondly, as well as being a cleaning and repacking centre
for the Tientsin wool trade like Shihchu Shan, it is evidently
a commercial centre of considerable and increasing importance
for the import and export trade of the vast hinterland
to the west. We found more evidence of trade activity in
this isolated town than in any city in Kansu. Unfortunately,
situated as it is on the very outskirts of Chinese civilization,
Paot'ou appears to have suffered greatly from the prevailing

lawlessness of the past few years, which fact, however, only
makes its commercial prosperity all the more remarkable. It 439
evidently owes its importance to its position as the most
westerly outpost of Chinese trade in this direction, and like
Kueihua Ch'eng, is one of the starting-points for caravans
going west. The Mahomedans appear to form an important
element in the trading community. There was no civil
official at the time of our visit, but a large garrison of
soldiers; the inhabitants seem a rough lot, as is to be
expected in a frontier town.

At Paot'ou our river journey came to an end and we 133
hired carts to convey our baggage to Kueihua Ch'eng, 487
distant four marches, the usual stages being, Salach'i 90 li,
T'aossu Ho 70 li, Pihsuehchi 90 li, and Kueihua Ch'eng
80 li. The road runs east across an undulating cultivated
plain accompanied by the Tach'ing Shan range on the north.
Except for some marshy patches of grass land which have
to be crossed, the going is good, and I have never known
Chinese carts to travel faster, our ponies frequently having
to trot to keep up with them. The traffic was surprisingly [484]
busy on the road which evidently carried a bigger trade than
any trail in Kansu. The inhabitants are apparently all 563
Chinese, but at a farm where we stopped for a meal the
owner and his wife though dressed in Chinese clothes could
only speak Mongol; and another sign of the former Mongol
population is a picturesque lamasery on the mountain side, 792
which from its appearance might equally well have been
situated on the Kokonor border. The Mongol lamas are 796
very like their Tibetan colleagues, as is shown by the
accompanying photographs (see frontispiece) of a so-called 535
Devil Dance, which were taken at a big monastery in
Eastern Inner Mongolia, and represent the "Dance of the
Black Hat," the commonest religious dance in Tibet. It
represents an incident in Tibetan history namely the killing
of King Glangdarma, the notorious persecutor of Buddhism,
by the lama Dpalgirdarje in A.D. 842; the lama danced before
the King in the costume shown in the photographs,
concealing in his broad sleeves a bow and arrow. The
photographs facing pages 200 and 202, which were taken at the 796
same Mongolian monastery, also represent purely Tibetan 782
ceremonies, namely the *torma* offering for warding off

796 devils, and the circumambulation of the monastery by the
figure of the coming Buddha seated in a car drawn by an
[782] elephant, in this case a mock one. The extent of Asia covered
by that curious form of Buddhism known as Tibetan
Lamaism is very large, stretching as it does from the
northern frontiers of India to the southern borders of
Siberia, and from Ladak to the confines of Manchuria.

Kueihua Ch'eng is another busy commercial town
[361] serving a hinterland extending to Kashgar, Kobdo, Ili, and
438 Uliassutai. Near by lies the old Manchu garrison fortress
of Suiyuan, which gives its name to the new territory of
Suiyuan; the latter includes parts of Inner Mongolia and
Northern Shansi, and has its counterpart further east in the
territory of Chahar, comprising portions of Eastern Inner
136 Mongolia and the Kalgan and Jehol regions of Chihli. These
territories are administered on military lines. Kueihua is a
good starting-point for a big-game shooting trip into the
mountains further north, where remarkably fine sheep, a
sort of *Ovis argali*, and wapiti can be secured, as well as
the roe-deer and goral common in North China. With the
Kalgan railway extension pushing on towards Kueihua, this
is some of the best and most accessible big game ground
in China nowadays.

487 We changed our carts at Kueihua Ch'eng and hired new
ones to take us through the mountains to railhead at Feng
133 Chen, distant four long marches. The first stage is a march
of 90 li to the mountain village of Shihjen Wan, the trail
continuing east across the plain for six or seven hours and
then running up a shallow valley for the rest of the way.
Many of the higher mountain slopes were snow-clad, though
the season of the year was only late September. On the
following day another long march of 90 li up a valley and
over a low pass brought us to the hamlet of Wuli Pa, lying
on a sort of plateau of moorland country, the beginning of
the grass lands of Eastern Inner Mongolia. It snowed
heavily most of the day and we arrived cold, wet, and tired
[485] to find the roughest of accommodation in a large cart inn.
The third stage is still longer, called 110 li, to the village
of T'iench'eng Ts'un, but the trail lying partly across grass
country one can travel fast. The road descends through
flat open valleys to a lake, where good wild-fowl shooting

can be had, and then ascends to another grassy plateau. 487
Herds of Mongolian ponies (the "China pony" of the 133
Treaty Ports) were to be seen, but the good pony country lies much further north-east, beyond Kalgan and Dolonor. The following day, September 26th, we accomplished our last march, 60 li to Feng Chen. It was freezing hard in the early morning, and we decided we had just completed our journey in time; for winter on these steppes of High Asia is very severe. The trail continues across the grass lands for two hours' march, and then runs down a broad cultivated valley plain for the rest of the way to Feng Chen, an unwalled [361]
township, and the railhead of the Peking-Kalgan-Kueihua extension line.

A construction train took us down to Tatung Fu, an [496]
important town of Northern Shansi, where we were lucky enough to strike the weekly express, which runs through to [796]
Peking in one day. This was the end of our long journeys, and the reader, having accompanied us as far afield as Chengtu in Szechuan and Hsining and Liangchou in Kansu, is probably as tired of reading about them as the writer is of recording their description.

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502 water was carrying considerable ice-floes, but one day, at a narrow part of the bed some miles further down, they were arrested, and in a few hours the whole river was piled up, mass on mass, with ice. The impact was so powerful that blocks were flung wildly about in all directions, and with one mighty solidifying spasm the iron grip closed upon the waters, and the Yellow River was ice-bound for months.

CHAPTER IV

LANCHOW TO LIANGCHOW

487 The journey from Lanchow to Liangchow can, under favourable conditions, be accomplished in one week. Half-way between lies the town of Pingfan, at the angle where the cross-roads leading westwards to Sining and Kokonor meet the main North-West road.

133 A few miles outside Lanchow we traversed the dry bed of an ancient inland-sea, circular in form. The high-water mark showed clearly far overhead near the top of the surrounding cliffs, where the stone was worn into the shape of pillars. The bed was strewn with finest sand, and all the water procurable was very salt.
253 It was here that we met the first herd of yak, which was being driven to Lanchow for slaughter, as a large amount of the beef sold in these cities of the North-West is yak meat.

376 The fourth day brought us to the Pingfan valley,
256 down which a watercourse rushed between banks of ice, supplying the power to work a number of flour mills which were grinding, even though their structure
788 was hung with enormous icicles. Here, for the first time, we passed a prayer-wheel, erected below a basin

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494 few moments Dr. Kao swung himself from the saddle, and advanced to meet us with cordial and cheering words. He turned from us to the carter, who, with an abashed grin, acknowledged his presence.

'Hello, Old Sheep!' he exclaimed. 'You out of jail again? That last trip of yours turned out badly.' Then turning to us he said: 'This carter has just finished his third term of imprisonment for destruction of travellers' property, through carelessness. Whatever induced you to hire him? He'll never get in to-night. But we must do so.'

361 A few swift orders were then given, and the second
133 horseman galloped back to the city for help. Mean-
while as many of the party as could be crowded
494 into our own small cart drove on, while the rest proceeded on foot. The soil formation in and around Kanchow is peculiar. The city is built on a crust of earth covering underground springs. During the period when the water is still frozen the place stands firm, though buildings are thrown out of the perpendicular, but during the spring months the earth trembles and yields under the slightest pressure. On this occasion a thaw had set in, and water was welling up from below the surface, so that the condition of the roads baffles description. We picked our way cautiously over this swampy, unstable district, and where rivers intersected our path, the cart was obliged to take us over in relays. Horsemen now appeared coming to our rescue with galloping steeds, two saddled for riding and two more ready to be hitched to the carts. These fine horses, we were told, belonged to a Mongol Prince, who was staying in Doctor Kao's house.

326 It was long after sunset when we entered the great gates of Kanchow city. We passed through between the flaring smithies which always ply their trade in the

000 arranged that we should spend July among them under canvas, in Tibetan territory.

CHAPTER IX

A SPRING CAMPAIGN

778 Marco Polo wrote of the city of Kanchow, where he made long residence, and once held office as Governor, as the ' city which holds more gods than men.' This local saying is still constantly on the lips of its inhabitants, who take great pride in the fact that its temples and shrines are so numerous as never to have been accurately numbered.

133 [285] The town is beautifully placed and abundantly watered. It contains several lakes, which being overgrown with reeds supply material for an important mat-plaiting industry. Besides these larger expanses of water, there are a number of ponds fed by underground springs, dependent upon the melting snow from the Tibetan mountains. In these ponds the water rises and falls in a most unexpected way, so that sometimes their banks are surrounded by children fishing, while at others they become the highway of city traffic. The streets are bordered with fine poplar, acacia, and willow trees, which flourish splendidly, throwing their roots deep into the hidden sources.

353 As one would expect, the people are in all things superstitious and religious. All the wealthy homes have a private shrine, which is often a handsome hall, where the ancestral tablets are preserved, and where 788 incense is burned to the family idols. At sunset each day the sound of bells rises on every side, as the woman of each household touches the rope which sets in motion

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000 through which the ordinary traveller is glad to pass quickly.

•133 The aspect of the country was very different from that which we had met south of Kanchow. On the Tibetan side the snow-covered Richthofen Range came closer and closer, while the Mongolian hills gradually diminished in size until they became mere sand-dunes, and then drifted off into the flat expanse of the Gobi Desert. The style of the country presented a good deal of variety, and lay in clearly defined sections running [245] from north to south in narrow strips. Shaho, the first town of importance, was on a fertile band, and lay in the midst of orchards, in which the trees were then laden with ripe pears. Leaving these one mile behind us, we entered an area of loose sandhills, where we found it necessary to descend from our carts to lighten the weight for the animals. We plodded through the fine, dry slopes with a delightful sense of illusion that just 136 over the horizon the sea must surely appear. A number of small sand-coloured lizards sunned themselves by the way; and raising their heads at our approach, they then made off at a great pace pursued by the carter, who derived much enjoyment from catching them by the tail. Our part in the sport was to sing and whistle, which immediately brought the little creatures to a standstill, and kept them spellbound for as long as we continued our tunes. About ten miles further on we passed a clearly-defined line of swamp, through which we approached the city of Fuyi. Here the water-wagtails kept pace with the cart, and a beautiful crocus-yellow-breasted variety flitted in and out of the rushes.

[361] Fuyi was the smallest walled city we had seen, but
[712] stands surrounded by well-watered and prosperous
622 farmsteads, owned by wealthy families. The hand of a

317 distant. We made a détour to visit this, and questioned a band of workmen we found on its border, raking the white crust into glittering mounds. They informed us that every year, in the month of April, the water wells up to its highest level, gradually retreating during the summer, and leaving behind the crystals, which are so clean and pure as to require no further process than that
312 of being exposed to the sun's rays. Strange to say, however, the spring of drinking-water used by the villagers is perfectly sweet.

The inhabitants of Salt Lake village possess the right
651 to a certain tax on every cartload of salt exported, but
733 as usual opium has killed all initiative, and these unhappy people are reduced to an abject state of
342 poverty. The miserable houses, however, are constructed of very endurable material, the blocks being of sun-dried, bituminous clay dug from the borders of the lake, and which are much harder than the kiln-burnt bricks commonly used in Kansu.

624 It had been reported to us that a Christian Chinese couple resided here, the husband being the official recently appointed by the Chinese Government to receive the salt tax. This lady and gentleman hearing we were there, invited us to their house and we were cordially welcomed into a delightful Christian home. It was indeed pleasant to sit down at a well-served table, and to enjoy once again Christian fellowship and intercourse. These refined people were living under
433 conditions of the utmost isolation, where all food-supplies had to be brought from Kaotai, as it is impos-
511 sible to grow any grain or vegetables; indeed, the neighbourhood produces no commodity of any description whatever except salt.

And now at length we finally touched the extreme
133 southern border of our objective, and passed, without

any transition, from wastes of sand into a fertile zone, in which the city of Linshui stands. We arrived there 133 in the evening, and after supper strolled out through the quiet street to the canal which bordered the watered land. Here we sat on a bank and looked down on what 000 was to us a very beautiful and a very thrilling sight. The plain was wooded, and the early autumn frosts had painted the foliage with gorgeous tints which glowed under the level rays of the setting sun. A winding river showed here and there between the trees, and we knew that, hidden among the groves, lay the city of Suchow, around which our thoughts had centred for so many months, ever since the day at Pingliang when David Tõrnvall had laid his finger upon the map and said: 'Here is the city which awaits your coming.'

We sat until the sun had set nor did we care to speak, so full was the mind of each, of thought concerning all we had come through, and all that yet lay before us. Gradually the darkness closed in, and by starlight we slowly walked back to the inn, our hearts beating with high courage and great confidence in God our strength and our exceeding joy.

CHAPTER XVI

THE SPRING OF WINE

ANCIENT Suchow, known as Chiuchüan—the Spring 361 of Wine—has vanished, having been replaced by the 563 present town which has only arisen within recent years. The destruction of the former city being caused by the last great Mohammedan rising in 1862, the new settlers enforced a regulation ordaining that no Moslem should be allowed to reside within the walls, in consequence

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000 we began to view the incoming winter, under present conditions, with a certain amount of anxiety. Seeing therefore that our life must necessarily be somewhat rigorous, we added a layer of camel's hair to our already wadded Chinese garments, and thus equipped we were subsequently enabled to meet temperatures registering fifteen degrees Fahrenheit below zero.

261 During this first winter we were fortunate in securing from a Moslem farmer excellent milk, but food supplies in these localities are very variable, not only from city to city, but from year to year; and after a few months, cattle disease carried off most of the cows, so our dairy supply failed completely. Mutton, yak beef and pork could be bought, but all were of a poor quality. Vegetables, however, were excellent and eggs plentiful. Our daily dinner was a Chinese meal of rice or macaroni, but for several months of each year no fat of any kind was obtainable for cooking purposes, with the exception of linseed-oil, which is commonly used by Kansu people; unfortunately, in spite of every effort, we were never able to accustom ourselves to the strong taste, nor eat it without revulsion. Our winter preparations also included a large quantity of wheat, which we ourselves ground as needed, and which gave us a good store of bran with which to fill large baskets of eggs, this being the only way to prevent their freezing.

133 Our first expedition was taken before the winter
closed in, when travelling would be too hard. It took
712 the form of a trip to the fortress of Kiayükwan, which was only twenty miles distant. The road was over a barren and stony waste, leading slightly uphill, so that the journey took six and a half hours to perform. It was a dismal landscape, though the Richthofen Range looked magnificent with snow to its very base, and we also crossed a good many beautifully clear streams on

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138 the way. At a distance of about two miles a high gate-tower of many storeys came in sight, flanked on
712 either side by a clay wall, which on the south stretched for seven miles to the foot of the Tibetan mountains. On this side lay green meadows richly watered by springs, and for this reason the name Kiayükwan has been given, meaning 'The Barrier of the Pleasant Valley.' The position of the fortress has indeed been well chosen in view of excluding invaders from the west, this being the narrowest point between naked hills on the north and south. Under the shadow of the walls a stream is crossed by a wooden bridge, and from here the path mounts steeply to the door of the southern quarter, where all the inns are situated. We passed through two great vaulted gates into the first enclosure, which holds within it the ruins of a small town, now mostly uninhabited. The splendid outer walls, with their loophole battlements and towers, and the Yamen and military barracks, still occupied, give an impression of mediaeval importance to a place which otherwise would be only a tumbledown village.

487 A most imposing gate led out on the north side, and beyond this, as far as eye could reach, was an undulating desert over which the wintry wind was blowing. A hundred yards from the gate a stone tablet proclaims this to be 'Earth's Greatest Barrier.' The scene was desolate beyond words, and if ever human sorrow has left an impress on the atmosphere of a place, it is surely at Kiayükwan, through whose portals for centuries past a never-ending stream of despairing humanity has defiled. Disgraced officials, condemned criminals, homeless prodigals, terrified outlaws, the steps of all these have converged to that one sombre portal, and through it have for ever left the land of their birth. The arched walls are covered with poems wrung from

The appearance of the town[1] is not very different from 361 others of the Gobi border, except for its unusual gate, 312 of which the inhabitants are almost unduly proud. It stands in a well-watered belt, and the land is cultivated right up to the city wall. We reached it through a sea of mud, as irrigation was in progress, and in accordance with the careless custom of the Kansu agriculturalist the stream, not being required on the land, had been turned off and allowed to flow down the main road.

We spent several busy, happy days there, as the 000 people were particularly interested and listened willingly. On the morning of our departure, as we left the inn, an old woman pulled one of us by the sleeve in a mysterious manner, and whispered : 'A word about those things that have been lost!' We wondered, what things? Could it be that she had information of our own lost parcel of books, and a sheepskin coat dropped by one of the carters? Seeing our look of interest, the old crone was emboldened to go on with her story. 'You are "Holy Women"; you know secret things, hidden things, things that we cannot divine. Will you, please, tell me before you go, *the name of the thief who stole my cow?*'

Thirty-five miles further on is Pulungki, a city that 361 once must have held at least fifty thousand inhabitants, 133 but which now is nothing but scattered ruins, a few poor inns, and an encircling wall of immense area. During the next few nights we counted ten more deserted towns and villages, and no words can adequately convey the extraordinary sensations evoked by crossing in the moonlight, or in the uncertain pallor of dawn, these abodes of the past, whose deserted streets are sometimes still clearly defined, and where abandoned houses, with yawning doorways, stand tenantless on either side. From dateless ages the Gobi Desert has approached

[1] [Yümen -- Analyst]

36 933 with stealthy steps; moving, like some sluggish organism, till with soft, hungry lips it has seized its prey and absorbed it; and then, replete and satisfied, has lain down triumphant. The surrounding scene is of an unspeakably desolate character, reminding one of a landscape in the moon, only that instead of extinct craters, here are dead and forgotten cities, towns, and villages.

173 All sorts of legends are told about this region.[1] Pulungki is said to have been the original Eden of the human race; any amount of buried treasures lie concealed in caves underneath the soil; demons haunt the whole neighbourhood; a hole in the ground with steps leading down may mean a robber's den, or, on the other hand, it may be the entrance to some Arabian Night's grotto, piled with glittering stones!

Circumstantial stories of such discoveries were told us. Men, whose names were known, had dug into such a hoard, and by the flare of torches had actually seen the booty, but when they were just on the point of seizing it, a rush of wings had passed overhead, throwing the searchers violently to the earth, and filling them with such terror that to escape with their lives was all they could hope for. Bats? No, not bats, they were too far in for that; besides, the cave had never been opened within the memory of man! Again, one party of excavators entering the far recesses of another subterranean shaft, had seen, to their amazement, a faint glimmer of light. Drawing near they had found a tiny oil lamp burning—a mere speck of flame, but undoubtedly of human origin, as there was a wick, which wick was fed from some enormous vat of vegetable oil, the supply of which had been sufficient to keep the light going for centuries! And to convince us of the truth of these assertions, we were shown certain remarkable,

[1] [Between Yumen and Tunhwang—Analyst]

010 bid her farewell, before she would permit the sacred
words to pass her lips she washed her face and combed
her thin hair, feeling it to be disrespectful to the One
True God to address Him unprepared. Such a soul as
this, met with on the road of life, one can never forget.
She was ripe for the Call ; and she heard it, and was
glad.

361 The next city is Ansi, which also bids fair to dis-
133 appear under the encroaching sands, as these have
already drifted round it as high as the top of the wall.
It is a cold, storm-swept place, exposed on every side,
and with neither coal nor wood obtainable. The wind
132 is said to blow every day in the year, but in the winter
512 it is so fiercely terrible that all shops are closed, and
733 everything is at a standstill. Every household then
lives, eats, and sleeps on its dung-warmed *kang*, nor is it
surprising that so many while away the weary hours
487 with the fumes of the opium-pipe. Ansi lies at the
cross-roads, where the great track from Suchow turns
off towards Hami and Eastern Turkestan, meeting also
the main road to the Oasis of Tunhwang, four stages
to the south-west. The fame of Tunhwang had already
172 reached us. We had entertained at Suchow a party of
American archaeologists from Harvard University,
who had recently been there for the purpose of seeing
its art treasures. Not being able, however, to fulfil
their purpose, they were returning to Peking, carrying
away a rather unfortunate impression of the Tunhwang
population, and they warned us that we should find them
turbulent and somewhat rough-spoken. This did not
alarm us, however, as our search was for treasure of
a different kind, which called for excavation of another,
and less obvious nature.

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CHAPTER XXIII

THE OASIS OF TUNHWANG

TUNHWANG is, in the opinion of the inhabitants of 484
neighbouring cities, so gay a place as to merit the
name of 'Little Peking,' but as four days particularly 487
hard travelling separate it from Ansi, which is the
nearest town, we were warned of hardship ahead in
getting there. We were therefore advised to fill every
available bottle, to carry a sack of bread and one of
flour, and to occupy every space left, with feed for the
animals. On leaving Ansi we made a straight line [133]
for a long volcanic range which we had already sighted
on coming, and which we now followed the whole way.
The aspect of these hills was different every hour,
seeming now near, now far, and blue, purple, or silver-grey,
according to the course of the sun. They were
bare of all vegetation, and scored by innumerable
watercourses, which disappeared into a gently-sloping,
barren, gravel plateau. The so-called inn, which [485]
marked each stage, was but a rude shelter inhabited by
two men, and the only water was a brackish well. The
last night was the hardest of all. The road had [135]
stretched over an expanse of salt, glittering in the star-light.
We had expected a good rest when we reached 484
the inn, but on arriving were told that the fodder supply
being now nearly exhausted, there would not be enough
left for another feed, so we must leave in four hours'
time, if the mules were to have strength left to pull us
through the deep sand now lying ahead. Accordingly,
after a brief halt we started, and at 4 a.m., chilled to
the bone by the biting wind, and utterly weary for want
of sleep, we felt almost at the end of our powers. The

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484 you.' We had not gone very far when a mounted soldier
galloped alongside. 'Ask him his honourable name,'
said the senior member of the party from the recesses
of the cart, 'and how many children he has.' This led
on at once to a friendly conversation, and soon we were
supplying the soldier with pears, and a share in the
lunch we were carrying, while in return he gave us an
immense amount of information, more or less reliable,
491 about the whole district. The road proved indeed
difficult to find, and as, from the moment of leaving the
•133 fertile land surrounding the city, until we reached
172 Chienfutung, we did not meet a single human being,
we should have inevitably wasted much valuable time
had we been unescorted. For some time we ploughed
our way heavily through the loose sand, to emerge
finally on a gravel *glacis* of uncompromising sterility.
Eastward stretched a range of sandy foothills, whose
outlines were always changing under the bidding of the
winds, but which, tradition affirms, hide beneath them
the ruins of a very early civilisation, while ancient
records speak of at least two towns, at one time ruled
by Mongol princes, no traces of which can now be
found. The whole impression given, is that of a
thickly-inhabited district overtaken by some cataclysm,
which has left Tunhwang to stand alone—an island of
verdure in an ocean of sand. After three hours'
travelling, the coarse grit gave place to boulders, with
flakes of mica glittering on the ground; then, following
what seemed to be the bed of a former river, bordered
by cliffs of conglomerate, rising gradually to a great
height, we were led to the back of the sandhills, where
unexpectedly we entered upon a green oasis planted
with fine young poplar trees, some still vividly green,
while others had already changed to clearest yellow.
Here were the rock-temples.

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172 either side stood an attendant, one of which was a gaunt
778 brown shape of terror sent forth to induce men to
commit suicide by taking opium. His was a dread
346 figure indeed, but not to be compared with the second,
532 which represented the female instigator of suicide, by means of cutting the throat. She carried no emblem to make her mission clear, but every line of her insinuating face and bold, compelling eye, suggested the Power of Evil, able to break down the last hesitation in the mind which contemplated this dreadful deed; and Chinese women have since told us that many a bride has cut her throat after a visit to that shrine. The consummate horror of this representation so impressed us, that we can well believe it.

788 Chienfutung habitually stands solitary, but for the visit of an occasional pilgrim, except during one week of the year, when thousands of worshippers crowd its temples, and the air is heavy with burning incense. Streams of small-footed women risk their necks on the precipitous, crumbling paths leading to the upper galleries, nor will they, in spite of the utmost fatigue, leave one single temple unvisited, lest having done so much, they should fail to conciliate that last, final deity whose malice might be incurred by neglect!

CHAPTER XXV

THE LAKE OF THE CRESCENT MOON

• 133 We returned to Tunhwang so enthusiastic about the
491 art treasures of 'The Hall of the Thousand Buddhas' that our visitors urged us to make a second expedition to another beauty spot of the locality, Yüehyachüan—'The Lake of the Crescent Moon.' 'Chienfutung is

the work of man, but the Crescent Lake is the work of 133
the gods,' we were told. It was only three miles from the 491
city, but proved to be so curiously located that one might easily be only fifty yards from it and yet remain unconscious of its existence. We were warned that the road was heavy, so we left in good time, having harnessed our three best beasts to the small cart. An hour's drive brought us to the foot of the sandhills lying to the south, and then we looked right and left, knowing that so far we had not missed our way, yet being quite unable to determine in which direction we should continue.

Finally we turned to the right, when almost immediately our shaft-mule had a bad accident. Failing to disentangle her feet from the soft ground she was pulled over by the two others, falling on her head with nose and mouth completely buried in the loose sand. A yell from the driver brought our second man to the rescue, and they were fortunately able to lift the poor creature up before she was completely smothered. Meanwhile Elder Liu, who had been made responsible for the enterprise, went on ahead, climbing a sand-dune about three hundred feet high. A signal from him, and we proceeded to follow, undertaking one of the most difficult of ascents, as at every step we sank well above the ankles, and finally were obliged to take off our
shoes and climb in stockinged feet. When we reached 133
the upper ridge, still we saw nothing beyond the vast
expanse of sandhills, but one step more and below, in 137
the narrow space dividing us from the next hill, lay a most exquisite miniature landscape—a small, crescent-shaped lake, in colour a sapphire-blue, while owing to a strange optical effect, the sand slopes around took on a wonderfully soft, mother-of-pearl iridescence. Behind the lake and opposite to us stood a small temple and

133 137 rest-house in the midst of a group of trees, the whole picture being reflected in the water, wherein numbers of little black ducks with white beaks disported themselves, dipping and reappearing continually. The little divers found the current to be so strong, that as soon as they reached the western extremity they rose above the water and trusted to their wings for the return journey rather than battle against the stream.

133 823 778 There is another curious phenomenon,[1] the facts of which we were able to test. We were told to slide down the sandhill propelling ourselves by movements of our hands. This we found to be a very simple and effective way of descent, as the whole warm dry surface moved with us. At a certain point a loud, clear, vibrating sound responded to our movements, resembling the twang of a mighty musical instrument, which sound seemed to proceed from the very centre of the hill.

Another name for the locality is 'The Door of Thunder,' from the extraordinary sounds that sometimes are heard, when the whole valley echoes and re-echoes with a noise like that of rolling drums, and when the sand, moved by the vibration, starts rolling, and continues to roll for hours on end. It is most amazing that this little lake and its surrounding temples should not long ago have been buried under the sandhills. Certain it is that, however fierce the wind, it always carries the sand away from the surface of the water; were it otherwise one windy season must be enough to alter the whole aspect of the scene.

'The Side Door of Paradise' is a name frequently used by Buddhist pilgrims when speaking of this lake. Only a few hundred yards from the rest-house is a sand-choked depression, with temple buildings almost wholly submerged by drifting sand, and here was formerly a sheet of water as clear as that of the Crescent

[1] [At the Lake of the Crescent Moon --Analyst]

3:Cable & French M-5 (1926) 1927
AF13 Northwest China AF13

Lake itself. Its purity was offended by the act of two 133
women, who determined to force an entrance to 823
Paradise by the crystal gate of these pure waters. 778
Throwing aside their garments they plunged beneath the surface and were never seen again, but the lake immediately receded and allowed the shifting dune to cover it!

The popular idea of buried buildings and great subterranean caverns, which account for all these mysterious effects, are probably correct, nor is it surprising that many tales are related to account for them. The whole neighbourhood is full of interest, and some day, doubtless, will be called upon to give up its secrets to scientific excavators.

Just when we were leaving the rest-house, a lama 100
came towards us, having travelled barefoot from the sacred mountain of Shansi, prostrating himself at every few steps. It was near sunset; his red and yellow robes were soiled, and he himself weary and travel-stained, so that he was now calling in at this temple for a night's shelter. We stopped and spoke to him, and then all sat down by the wayside to talk.

'From what Province do you come, lama?' we enquired.

'From Utai Mountain, in Shansi,' he answered, 'and the road is long; it has taken me six months to reach here.'

'And where are you going?'

'To Lhasa, through those mountains,' waving his hand in the direction of the Southern Hills.

'What is the purpose of your pilgrimage?'

'To fulfil a vow made many years ago.'

We handed him a copy of St. John's Gospel, in which he at once read aloud the opening words: '*In the beginning was the Word, and the Word was with God, and*

3:Cable & French M-5 (1926) 1927 AF13 Northwest China AF13

~~Sinkiang-AI-1~~

first arrival in Suchow we had heard constant mention of this place, and had made many enquiries how best to reach it. It was very difficult to locate, and seemed to be two or three days' journey from every other oasis in the neighbourhood. We had the conviction that difficult though it might be, Hwahaitz must be visited by the preaching band. One of the Suchow enquirers superintended a business which had a branch in that place. Travelling through Kiayükwan we had unexpectedly met this man riding along the road, and told him of our determination. His instant reply was: 'I have just left there on my way to Suchow, but I will now turn back. You will find me waiting for you at Hwahaitz any time you get there. Fit it in as you can.' 070

At the close of a long day of preaching we cooked and ate a meal, then rolled up our tents, packed our carts, and left the grassy glades for the stony Gobi. A group of our new friends came to see us off, and among them was 'Lydia,' who had spent the afternoon in our company, sitting with a group of women teaching them the only text she knew: 'Come unto Me all ye that are weary and heavy-laden, and I will give you rest.'

The sun was setting when we crossed the main road, 491
which would have taken us on our legitimate stage, and 133
turned off due north into a region of bare volcanic hills without a sign of life. Even the single telegraph wire, as we left it behind us, had a friendly and alluring aspect. The moon was but a few days old, and soon abandoned us in a district more weird than anything we had previously seen, and we threaded our way by a path often scarcely wide enough for our cart wheels, and between high volcanic ranges of terrifying outline, from whose sides boulders had constantly fallen, blocking the narrow roadway. Once our front mule

491 shied in terror at something none of us could see, but 133 which the carter found to be the carcase of a camel. For hours we progressed in this valley[1] of desolation, and about 2 a.m. emerged into a small patch of watered 244 land, where a few families cultivated melons. We do 312 not like these watered lands in the darkness. Deep ditches are dug in all directions to convey the stream of water, sometimes to one part of the land, and sometimes to another. In and out of the dry ditches the cart bumped and stuck, whilst the animals strained at the high banks. Often the ditch was full of water, and this was worse, as through these rivers of uncertain depths the cart must go, and the experience is nerve-racking.

Before long, the barking of fierce dogs (another of the night-terrors) was heard, and our driver stood behind his mules preparing his whip for a possible fight. The farmer, however, was friendly and hospitable. The young men of the household got up, chained the dogs, and gave us the freedom of the threshing-floor for the night, where we slept in our carts. Early in the morning we gathered the people together, and to their great delight held a gospel service with singing accompanied by the harmonium.

When we left, our hostess gave us a basketful of oil-buns—dough rolled into thin cakes and fried in linseed-oil—and we proceeded on our way, still chasing the elusive Hwahaitz. In three minutes we had left the [133] watered land and were once more in Gobi. A group of 136 five magnificent black vultures caught our attention. They were so huge and so statuesque in outline that it was not until our young men had used the field-glasses that they were convinced these were really living creatures and not a group of rocks. The head was quite bald, and the movement in walking resembled the

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[1] [Between Chikinpu and Hwahaitz--Analyst]

3:Cable & French M-5 (1926) 1927 AF13 Northwest China AF13
~~Sinkiang AI 1~~

waddling of a small bear, but in flight they were 136
superb.

It was not until after sunset that we drew near the 000
first farm of the Hwahaitz oasis. The Suchow enquirer came out to meet us, and we found a room prepared for our use. The *kang* had been covered with a length of white cloth ; a kitchen with firewood was at our disposal, and a meal was being prepared. But we were too tired to sit up and eat it, and securing a cup of tea, we lay down and promptly fell asleep.

We were up early, but not before the crowd had begun to assemble in the courtyard. After a breakfast of pancakes made of flour into which oil had been kneaded, and which we dipped into vinegar, we went out to see the place. The gates of the walled enclosure in which we were staying were already decorated with Christian posters, and the students were out choosing a suitable site for the tent.

The name of the place signifies 'The Flowery Lake.' 133
The lake, however, after which it is named, proved to be 361
but a small pond in which naked children disported 241
themselves, and where the beasts of the local farmers
were brought to be watered. The oasis is circular, 312
large, and extremely fertile. The roads were bordered with poplar and willow trees, and the fields were sown with wheat, millet and flax. We followed the high bank of an irrigation canal, and passed the entrances of several large, prosperous and beautiful farmhouses.
The locality is very hot by day, but exceedingly cold at [132]
night ; at sunset the air hummed with mosquitoes, [136]
which, however, only lived a couple of hours before succumbing to the night chill.

We returned to find the site chosen, and the tent 000
pitched. Larger crowds gathered even than at Chikinpu, and the sales of gospels were most remarkable.

house had proved to bring a blessing, so we were 485
welcomed accordingly. On one occasion, to our joy 572
the innkeeper's wife assured us that she had never
once touched the opium-pipe since our last visit, for we 000
had told her distinctly that this *must* go if she would serve God. Then, too, the stages seemed easier, from the fact of their familiarity, as we now knew when to look out for a deserted city, or a clump of trees, or a rushing stream, or a sandy waste. We passed with even more wonder than formerly the site of the buried city of Pulungki, and marvelled once again that so extensive a town could have been recaptured by the Gobi till from being a busy habitation of men it had become the haunt of wolves.

There is a certain ancient river-bed a few miles out 313
from Santaokow, which must hold some considerable underground water supply, since groves of fine trees border it, among which was a large-leafed willow growing to the size and shape of an English oak. The villagers had also effected an arboreal experiment there which was new to us, for we saw large plantations of young willows grafted with poplar, and they told us that by this means they produced a very useful tree, having the quick-growing properties of the willow together with the superior wood of the poplar.

As on former occasions our journeys were taken by 484
night, but being midsummer the hours of darkness were brief, and we had the benefit of a long evening as well as of an early dawn, which enabled us to take more
note of our surroundings. Ansi seemed more deeply [361]
submerged in the encroaching sands than even before. [133]
One more winter of sandstorms had passed over it, and its population bore the impress of yet another winter of opium indulgence. Our inn rooms seemed more than usually gloomy and filthy, while over the

3:Cable & French M-5 (1926) 1927 AF13 Northwest China AF13
~~Sinkiang AI 1~~

more we prepared to enter on a stage which was completely new to us, and which we were warned held difficulties greater than any which we had already faced.

CHAPTER XXXII

VIEWING BLACK GOBI

Each afternoon of our stay at Ansi we wandered out 133
through the North Gate to a little bridge which spanned the irrigation canal, and looked over the limitless expanse of grey grit mixed with small black pebbles, across which the next stage of the journey must be taken. This was Black Gobi, a plain so windswept as to have lost its sandy surface, which has been carried away by the gales and deposited elsewhere. When the hour of our departure arrived and our carts rolled out by that same North Gate, leaving behind us the last city of Kansu, we knew that we must prepare ourselves for a series of arduous stages, and that we should not see another walled town until we reached Hami. It was 5.30 p.m. when we left the inn, and though we had tried to make it an easy day, the number of callers had added to the inevitable fatigue of repacking, and we were weary before we started. As soon as we were 494
out of the oasis we realised that the black, gritty surface was not as resisting as we had hoped, and the cart-wheels dragged heavily from the first.

Three miles from the town gate we passed a temple, 778
and as was our custom got down from the carts in order to visit it, as well as the priest in charge. To our surprise we found the door fastened from within by a heavy stone, and were unable to get an answer to our knocking and calling. Our carters refused to be balked

3;Cable & French M-5 (1926) 1927 AF13 Northwest China AF13
~~Sinkiang Al 1~~

778 by a disobliging priest, and between them succeeded in dislodging the boulder. We entered a spacious and well-kept temple-court containing a well, by the side of which stood a bucket and well-rope. We passed from shrine to shrine without discovering any sign of life, but a few moments later a call from one of the men brought us to a little outhouse, where we found the guardian lying on his *kang* in the grip of raging fever, too weak to move, and being quite alone, had no means whatever of communication with the city. All that our men could do was to draw a bucket of water, which with a few loaves of bread we left within his reach, and later on, when we passed the postman, we sent a message back to the Ansi postmaster telling him of the priest's predicament, and begging for help to be sent.

133 We travelled all the night, and dawn found us at a
494 landmark where a few arid mounds broke the landscape.
491 The place was called Siyaotz—'Four Caves'—the
name indicating four caverns which had been hollowed in the hillside, such as might serve to save a traveller's life in the event of high winds or blizzards. There was no point in delaying here more than a few moments to breathe the animals, which were already showing signs of fatigue, although we had accomplished little more than half our stage. But there is no possibility of delay on these hard marches, for the energy produced by the last feed soon ebbs, and consequently the Gobi roads are all marked by the bleaching bones of mules and camels, abandoned by their owners when too exhausted to keep up with the caravan.

The second half of the journey was now made doubly hard by the burning rays of the sun, added to which the grit was looser than before, so that after each short pull of twenty steps the flagging animals would stand still, needing to be urged again and again to make fresh

3:Cable & French M-5 (1926) 1927 AF13 Northwest China AF13
~~Sinkiang AF I~~

efforts. The road here was also quite deserted, as the 494
rigid policy of the Governor had closed it to travellers, 411
and the caravans which normally move up and down
this trade-route had vanished. Once, however, we 133
passed a pedestrian, who begged us, as though asking for gold, that we would grant him a drink of water, which of course we did, and afterwards at 10 a.m., thrown across the line of cart-ruts, we came upon the body of another man. A low stick supporting a little bundle of sheepskin threw a patch of shade over his head and served as a signal to passers-by. At first it was not evident if he were dead or alive, but one of the men raised him by the shoulders, whereupon he opened his eyes and murmured, 'A drink of water and I am your slave for life!' We held a cup to his lips, and when he had drunk he somewhat revived, and begging for more, repeated, 'Your slave for life!' We were still many miles from our destination, and our head carter called us aside. 'The man is dying,' he said; 'he is too weak to walk; we can spare neither water nor time. We must press on or we shall lose our mules.' The Christian men were desirous to help, but they also reminded us that if we took him on with us he might die, and thereby involve us in certain complications.

'Nothing will induce us to leave a dying man to his fate!' was our answer; and then seeing that the poor fellow was unable even to stand on his feet, we made room for him in the front of our own cart, while we took it in turns to walk so that the load need not be increased.

At 1.30 p.m. our mules sighted a few blades of green 312
grass, and realising that water was at hand, Molly first 485
gave the signal, lifting her head with a loud neigh! Every beast then summoned its dwindling store of energy, and a few minutes later we pulled into the inn court. The innkeeper at once took our sick man to

is dreary beyond words. The visit of a traveller is 494
their only touch with the outer world, and though in ordinary times and at certain seasons the caravans pass to and fro in large numbers, yet there are many months of wintry weather when there is scarcely a human being on the road. No wonder, then, that their[1] most valued 733
possession is the harvest reaped from the field of opium, which supplies them with their sole luxury of life. Here, as in every other place, we visited each family, sat 770
with them, talked with them, proclaimed Christ as Saviour and King, and on leaving saw to it that each family had now some Christian literature, which we hoped would be read during the long and dreary Gobi winter days and nights. Also before we left Petuntz we had an interesting interview with the man whose life we had saved. We found him to be only twenty-eight years of age, a native of Hangchow in Shensi, very well educated, and also that he had with him sufficient money for all his expenses, having come to 'Kow Wai' hoping to secure a good post. His gratitude to our party knew no bounds, and the villagers kept reiterating to him how lucky he was to have been picked up, as during these weeks when the roads were almost deserted, already several pedestrians had been found dead from thirst.

We left at sunset for the next stage, which was to 133
Hungliuyüan—'The Park of Tamarisks'—a charming 491
though deceptive name, and we reached it over ground which by night could have been mistaken for snowfields, the alkali deposit lying in a thick crust on the surface and making it soft and spongy. There 361
were only four souls in Hungliuyüan, namely, one man employed as courier by the post-office, and a woman and her two sons. Of the three inns, two had been 485
abandoned by their owners, who found they could make

[1] [Residents of Petuntz--Analyst]

485 no profit under the present conditions.[1] A petition had been addressed by the innkeepers to the Governor, bringing to his notice the fact that unless they were granted a sufficient government subsidy, they, too, would return to the city, in which case the road would become impassable to travellers, there being no one left to collect the necessary fuel for their use, nor anyone
•133 to keep the well clear of sand. In this locality we were among low, bare hills of a dark and threatening appear-
491 ance. They were formed of a rock of a deep purple colour, their surface being covered with loose fragments which were constantly breaking away under the influence of the weather, and the ridges presented a sharp, spiked outline. We observed also traces of a greenish granite, while in places the ground was covered with small pieces of white porphyry which looked as though a slight snowstorm had fallen.

491 Our next stopping-place was Tachüan—'Great Spring'—and from thence we came on to Malienking—
494 'The Iris Well.' We here had been overtaken by a party of travellers from the province of Honan, an official hurrying to Kuche on the Kashgar road, to take over the seals of office from a Mandarin who was seriously ill. For several days we kept together, greatly to our advantage, as Mr. Yüan had excellent animals and was travelling very light, so that at each stage he got ahead of us and kindly gave warning of our arrival, with instructions that a room should be swept for us and fodder prepared for the animals. On
000 several occasions this courteous gentleman slept in his cart in order that we might have the use of the only guest-room, and each day he and his suite joined us at family worship (his tall Moslem carter standing on the fringe of the little group, signifying his approval as we read the Scriptures), all reverently bowing in prayer

[1] [Restricted travel, see p. 187--Analyst]

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it under heaven." 361

The common people usually call the city of Lanchow fu, Gao lan hsien, after the title of the sub-prefect or head of the district (hsien) who has his seat there and who chiefly deals with the people. (1) The city lies close to the right bank of the Hwang Ho where 631

1. This post of Gao lan hsien was supposed to be a very busy one but poorly paid. These officials were therefore usually transferred to a good sinecure after a year. If they knew how to make a good impression on their superiors and relieve them of a great deal of work, they usually got Tsin tschou in the following year. I heard of a mandarin who three times changed over from one of these posts to the other, i. e., in one year he had to supplement his salary, whereas in the next, his earnings were very good. [661]

the latter narrows down for a short distance to a width of only 250 meters. There is no other place up and down the river where there is a similarly favorable spot for crossing over.

Each winter at this place the Yellow River is frozen over for at least one and one-half months, so that even heavily-laden freight wagons can drive across. The opening of this natural bridge which took place toward the end of December was always a great festival occasion and was celebrated with great pomp. First of all the Gao lan hsien as fu mu kwan, i. e., father-mother-mandarin, as the patriarchally-minded Chinese calls his district chief, had to drive over the ice in his gala carriage, accompanied by a large retinue, in order to prove that the ice was safe. On the other hand, in fall and spring when the ice broke up, river traffic was often blocked for days or weeks. One could, perhaps, at the risk of one's life cross the raging stream between the ice floes on a raft of goat-skin bags. But in the spring when the ice had disappeared, the famous pontoon bridge, the afore-mentioned wonder of the world, was set up at the expense of the provincial government. Twenty-two box-shaped wide boats of poplar wood were held together with heavy iron chains and especially with thick hemp ropes, as may be seen on Plate XXXIV. On top of these were laid unfinished planks, but so unevenly that one seldom dared ride across on horseback. Everywhere there were large holes, everywhere the planks rocked and tipped. The wooden railing, too, was more to look at than to lean on. Even Europeans regarded the bridge as a wonder of the world, but only /148/ to 133 487 527 491 place for the wealthier class of Lanchow fu. During the season there 529 the Chinese ladies are entertained with theater and festivals. There are /159/ woods on the slopes between the cliffs and a little mountain brook gushes merrily out of a narrow ravine. The Kansu know, as well as we do, where it is pleasant to be.

Beyond Kin hsien I was obliged, on the following days, to cross 133 this rocky mountain range, the Hsin lu Shan, the continuation of the Kwan Shan which earlier travelers had pointed out and which is made up of granite and chalk and sandstone rich in coal seams. Loess masses cover the slopes far up; but here, too, the peaks are free of this yellow, ugly covering. But at a height of 2,800 meters I had not yet got beyond the haze and dust which had enveloped the mountains and valleys in a blue atmosphere for one and one-half months now since the end of October when last it rained, or rather snowed. Every day the sky was cloudless; but visibility was so limited that the horizon and all the outlines of the mountains were indistinct. Behind, that is, southwest of these mountains - they form only a narrow chain like theater wings - one comes to the basin of the subprefecture Di dao tschou and into the environs of the Tao Ho, one of the most important tributaries of the Hwang Ho. In this basin, too, there is loess everywhere, but it is not very thick (about 40 centimeters). Below it there are soon to be found red tertiary and mostly horizontal layers of clay of huge proportions. These have molded the hilly and mountainous landscape of today and formed the valley which is several kilometers wide at the city of Di dao.

Di dao tschou belongs to the good cities of Kansu. It has possibly 361 15,000 to 20,000 inhabitants, tobacco manufacturing establishments, 487 many lumber companies connected with the spruce forests of the southern mountains, and is connected with Lanchow by a highway leading over the Kwan Shan. (1) Two important roads lead south from here and to the province of Szechwan, one over Min tschou and the other over Kung tschang fu.

The city of Di dao is already on the border of China. The Tibet- 631 ans appear as a new element among the Chinese and Mohammedans. 563 A Tibetan prince lives in the city itself, the so-called kia (pronounced dia) or tiao tu se (2) who has his own subjects. In the district of

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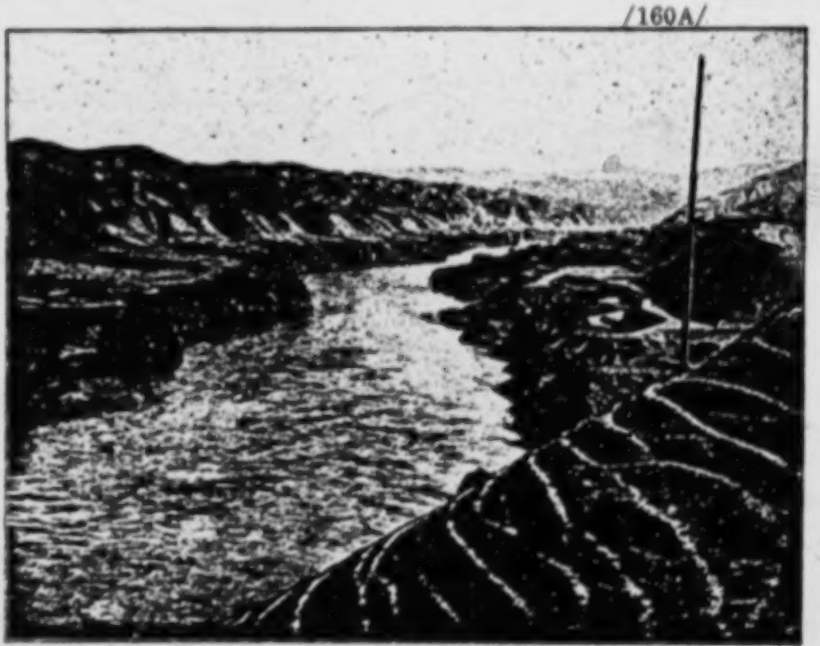
1. Part of the mountain range Hsin lu Shan, just described. As we mentioned earlier, the Chinese does not name mountain chains but only mountain peaks.

2. T'u se or t'u sse (not to be confused with tu se or du se,

5: Tafel--259 T-3 (1905-1908) 1914 AJ1 Tibet
N.W China AFU

Plate [redacted]
/160A/

●133



Hwang Ho 13 kilometers below Lanchow fu. (The Yellow River flows through a valley within a valley.)

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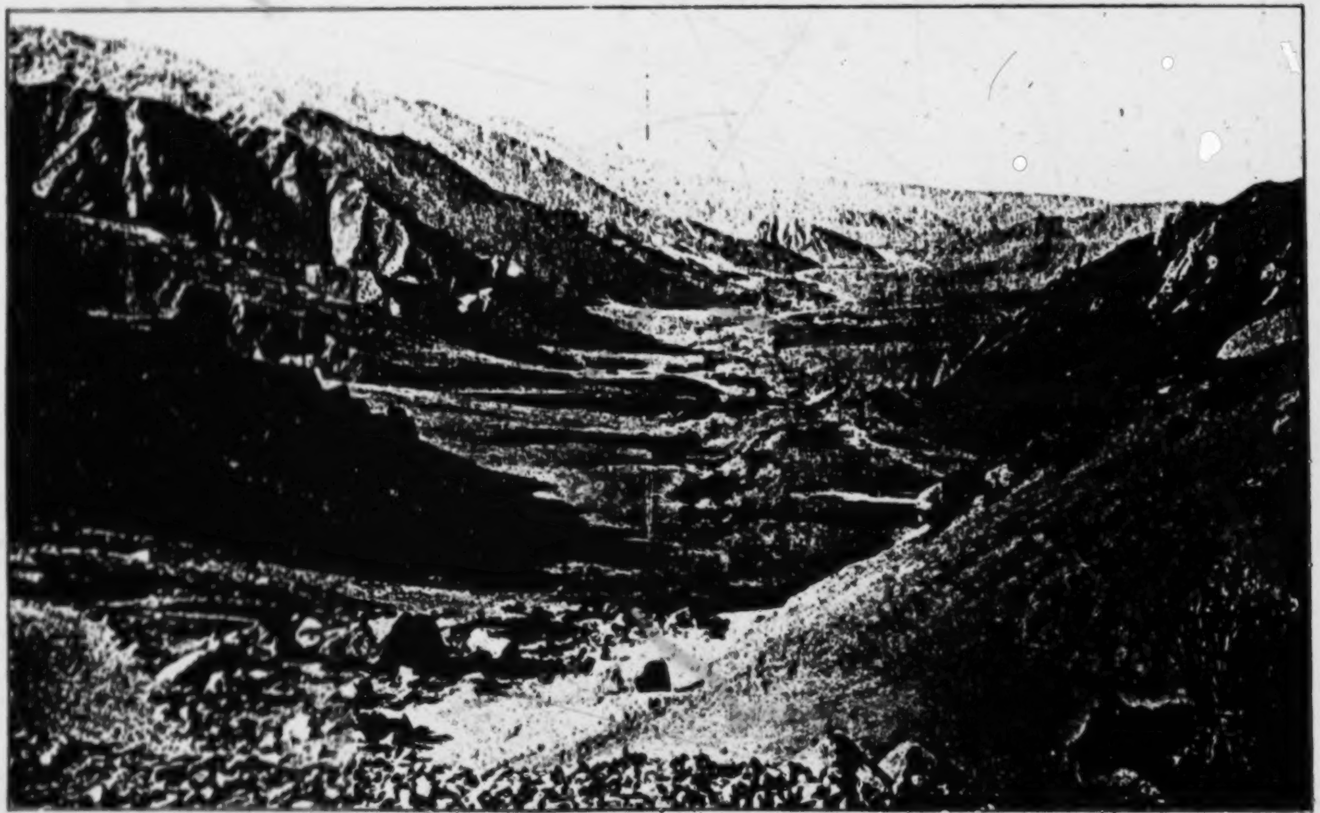
(Pere van Dyk) (Verfasser)

One must never lose one's good humor! In my inn in Lanchow fu in December we kept warm over a coal fire as we chatted.



View from Dardia la toward the north into the Tschi tai Valley which is inhabited by the Salar.

5: Tafel--261 T-3 (1905-1908) 1914 AJ1 Tibet

N.W. China AF13

Plate XXXV.

/160C/

133

C 631 into Ngolok country. Thus the ting of Hsün hoa is one of the largest districts in Kansu and in China, but Chinese influence in it is extremely slight.

C T 133 361 My way to Hsün at first led along a little stream on which the city of Ho tschou is situated, up an alluvial valley which is several kilometers wide. For many hours I traveled along it between the mountains of loess. At first the road was alive with many people and horsemen. There were also countless villages, just as China proper, hidden between extensive groups of trees. Out of the thick bluish-white haze of the loess country in which I at first still found myself, gradually rocky and high, snow-covered mountain peaks began to emerge. The mountains around me also became higher, more and more chains rose up out of the loess landscape. In front of me beyond the loess hills of about 2,200 meters altitude, the Tai tse Shan arose steep and bold, and many other chains, all of which again indicated a northwest-southeast strike, followed close behind. I stood at the edge of the Tibetan highlands. The way grew lonelier, villages became scarcer, copses began. The inhabitants looked stranger and were dressed more gaily in each new village, more and more red was worn. Around the dwellings white flags fluttered merrily on tall masts. By the roadside stood brightly-painted houses, monastery buildings and monumental tschorten (stupa); ethnographically-speaking we had also reached Tibet. On the second day beyond Ho tschou I crossed a high pass, the Dar di La(Sinicized: Da tse Shan), 3,490 meters. T 778 Countless stones, especially white quartz fragments had been gathered together on the highest point of this pass and formed something that resembled our Alpine "stone man." Out of this pile of stones loomed sticks with many scraps of cloth on which there were inscriptions and with tufts of wool. It was the first Tibetan lab tse or obo (3), a shrine dedicated to the mountain spirits. T 291 We met many Tibetans on that mountain and especially many Tibetan women, on foot and dressed in rags. In spite of the

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3. Pronounced lab tse, written lap rtse (according to Chandra Das, Tibetan-English Dictionary). Obo is Mongolian but is used by the border Chinese along with the word schan schen ta (literally: tower of the mountain spirit).

have only one-story houses with spacious yards. 361

According to my observations, Hsining fu is 2,300 meters above
sea level, while Hedin estimated only 2,265 meters, Grenard 2,250
meters and Filchner, on the other hand, by far the highest figure,
namely, 2,380 meters. It lies in the middle of a flat alluvial valley,
two kilometers wide, the floor of which can be irrigated, which
fact determines the relative wealth of the inhabitants and above all
the great cheapness of food supplies. The spot where the city stands 361
has again, of course, been very cleverly selected from a strategic 487
and economic point of view, namely, just below the point from
which two broad-bottomed valleys, each containing an important
road, branch off to the north and south (2) from the larger Hsining
Ho Valley running from west to east. The mountains which enclose 133
these valleys are covered with loess and consist of the horizontal,
red sandstone and clay strata which we find today under loess in such
extensive areas of Northwest China, and which I have so often had
occasion to mention. These reddish mountains rise up as much as
300 and 400 meters above the valley floor and are hopelessly bare.
The summer rains are scarcely able to alter their faded color. Not
even a tree anywhere. Even the willows and poplars around the
villages are scarce. One very seldom sees large old trees anywhere
in Kansu; they were cut down and burned during the many rebellions
when the fetters of reason and right of ownership were loosened.

2. The southern road leads to the Gum bum monastery and the city of Kue de ting; the northern one to Dai tung and farther toward Kanchow fu and the old Yümen, the gate toward Turkistan.

There is a great deal of rain in the region and many natural 631
springs. It is a little granery. Grain is sent from here to Lanchow 661
fu and many other places. The district also has a large untouched
store of minerals. It is counted among the good sinecures. The
best picture of its wealth is probably given by the annual income
of the lowest civil mandarin, the Hsien, which amounts to between
20,000 and 30,000 taels (one tael is more than three marks, for the
Hsining taels are very large). His regular income is, of course, as
always in China, only 60 taels, the "rest" are perquisites. /173/
Taxes and - so it seems - lands which were formerly not surveyed
but have now been reclaimed by the Chinese, and above all sentences
in the many litigations make up the large sums.

361 and the Mongols because through them the land was united with the kingdom and has remained thus ever since.

continues to be broad and rises evenly. It continues to be monotonous. After a little more than 20 kilometers, one comes to the town of Tschen hai pu, opposite which on the north side of the river lies the town of To ba (pronounced: Lo ba) which is also surrounded by high and strong walls. According to the old chronicles, To ba was on several occasions superior commercially to the city of Hsining. In 1895 it was the chief headquarters of the Mohammedan insurrection. And when at that time the Chinese again gained the upper hand, this was the place that continued to be defended for a long time with great tenacity and with the courage of despair. Now To ba lies in ruins. Only a few farmers and small merchants cling to their native soil. The old mosque which Rockhill once visited and which was supposed to have been erected by Emperor Kang hi, has been leveled to the ground.

133 Above these two towns one leaves the rolling hilly country of the Hsining basin. From the treeless, loess-covered clay and sandstone mountains one suddenly comes into a high, stern and wild rocky mountain range consisting of granite and of slate which shows marked folds.

485 I did not reach Dankar (1) until twelve midnight and had the

[103] 1. On maps one often sees the name "Tan kar." The name is pronounced Dankar. This is the Sinicized form of the Mongolian word Dunkur. This latter name applies to the whole district and there is also a small Buddhistic monastery by that name, a day's journey south of the city (see p. 280 ff.).

greatest difficulty finding lodgings even outside the gates in the open suburb. (2) All the inns were crowded with fish dealers who

2. The once flourishing suburb occupied by Mohammedans was treacherously attacked and devastated by the Chinese inhabitants of the city during the great rebellion. Many thousands of Mohammedans were killed.

come up from Lanchow fu in winter time. There was nowhere a

Kalmyk AH 5
N.W. China AF 13

K 291 177 to the East Mongolian dialect. They now dress rather unlike their other fellow tribesmen and more Tibetan-fashion. The chief characteristic of dress of the Koko Nor Mongols as well as the Banag Tibetans consists of a small pointed felt cap bordered with white lamb's wool, and the men as well as the women wear this. It is the Kalmuk kalpa. /194/

C 133 January 14. Early in the morning we crossed the Ke tou ya hu (Mongolian: Keten khutul), a low saddle that falls off flat on both sides. It separates the headwater territory of the Hsining Ho from the basin of the Tso Ngombo (Koko Nor) which has no outlet. From there I had my first view of the huge surface of the lake. But it was frozen, and there was a thick layer of snow on the ice - a rarity in those high altitudes. Thus, I saw only a large white plain spread out before me, well nigh limitless toward the west. The air was so clear and transparent that mountains could be seen all around the oval lake which was about 100 kilometers long. The mountain chains extended from west-northwest to east-southeast, and seemed to converge in the western distance. Only the shores which sloped horizontally toward the center disappeared in the distance.

800 Unfortunately, we had little time to examine the view more closely on the pass. We met two riders up there who, as is customary in the wilderness, immediately engaged us in conversation. "Where do you come from? Where are you going?" they asked while they scrutinized our small caravan and let it pass by. I have scarcely seen more roguish-looking faces. They were dark brown from the sun, and their movements were very quiet, and yet nothing seemed to escape those watchful eyes, brown as a deer's. Their pointed lambskin caps were tilted coquettishly over their ears and their left ear lobes were pulled down with the weight of a heavy silver earring. They both had a sword in their belts, a gun on their backs, and each carried a four-meter lance whose shaft was wound around in front with an iron band, as a protection against sword thrusts. We all instinctively felt that these two were not to be trusted. They seemed particularly interested in finding out what my servant Liu carried on his back. He was carrying my large mercury barometer in a thick case. Tschang did not hesitate for a moment in replying to their question: "It is an occidental instrument with which you can look through mountains and can tell at any time whether there are robbers in the vicinity." The two simply nodded and one could see by their expressions that they did not want to be classed among those silly people who believe everything. In the steppes

as well as in China people usually do not take you at your word, for 000
anyone who openly speaks the truth is considered stupid and naïve.

We set up camp at noon, quite close to the shores of the lake. C 133
The animals had good pasture there. But there was only a small strip of grass that reached to the lake. The rest of the entire eastern and northeastern shore is covered with high dunes, some of which reach far out into the lake. Only the extreme northeast corner is free from them. Thus, if the water level is high a flat bay can extend far into land. The entire eastern part of the lake is shallow. Because it has no drainage, the Kokö Nor is dependent on summer rains to fill up. Its water level varies each year and even each season. And that is why we find disagreement among the few travelers who have come here as to the size of its eastern end as well as that of a number of small, flat dune islands.

T 361
There were four black Tibetan tents an hour's distance from our camp, in a protected hollow on a mountain slope. In the afternoon the hsie dia and I rode over there to pay a visit. We were still more than 100 meters /195/ distant from it when we were surrounded by a raging pack of dogs. We dismounted in the nick of time and led our horses. When the latter are relieved of their burden they can always use their hind legs to defend themselves against charging dogs. Soon a few women came running up from the tents and kept back the dogs by throwing stones at them. They greeted us with friendliness, took our horses and led us into one of the tents. Their men were off on a cross-country trip, only an old man, a lama priest and a few half-grown boys were at home. But the Tibetan women invited us to sit down.

T 342 372
In entering one of the square Tibetan tents, which look like large black dice, one always finds the interior divided into two parts by a large hearth. This hearth is by far the most important furnishing among the tent Tibetans as well as among those who live in houses. There, as almost everywhere in the world, it is considered sacred. In it and around it live the gods and the spirits. And because of it the women who do not belong to the family or who are not intimate friends, may not enter a strange tent. In Tibet, also, T 841
a woman is regarded as an impure creature. During her menstruation a woman is not supposed to cook or have anything to do with fire. In her impure state she might anger the gods and spirits and thus evoke the family's ruin. In Tibet, as well as in China and among so many other peoples, the woman is thought to bring bad luck. Since there is no way of knowing what condition a strange woman

They skin them, clean them and then sew the carcass back into the skin so that it cannot so easily and stealthily be nibbled at by dogs. In this way the entire winter's supply of meat is stored in the tents. Inside it is always cold enough so that the meat does not spoil. T 231

It took a great deal of persuasion on our part to get one of the dogs. Even a Chinese in Hsining is not easily induced to sell his dog. A poor coolie might be, who does not have any possessions and whose home is elsewhere. But in that case his dog is no good. He will try to sell one of the stray dogs that he has picked up somewhere. In all of northeastern Tibet as well as on the border among the Chinese one can get a dog only as a gift. Thus, my hsiĕ dia man did not speak of buying one. He asked if they would give us a dog. We meant to give them silver earrings in exchange. And so the bargain was made. After the women had fed the dog which they had "given away" once more so that he would not bear a grudge against them, we were on the point of leaving when the men arrived. They did not at all agree that one of their dogs should be given away. "We're not fly-by-night vagabonds!" the man said angrily to his wife who had immediately shown him the earrings. "Women certainly never know what are good manners and customs. A dog is a member of the family and it is a great sin to give him away, and especially an old bitch whose puppies are already watchdogs around the tent." But fortunately the deal had already gone through. T 432 231

January 15. We made our way onto the ice /of Koko Nor--Analyst/ just behind our camp site. It was cut up into countless floes which were chaotically piled on top of one another and wedged into each other, and along the shore there was a wide border of pack ice several meters high over which my animals could climb only with difficulty. The ice was so thick everywhere that it did not even crack softly when my eight yaks with their hundred pound packs marched across it. As usual, the animals stayed close together and just behind them came the mounted drivers (Plate XL). The ice did not give way, it seemed to be half a meter thick everywhere. We made rapid progress, for there was snow several centimeters thick on the ice and neither the yaks nor the ponies were shod, so that none of them ever slipped. My plan was to go along the north shore until I found a place that would offer good grazing for the animals, so that I would be able to undertake rather long excursions out on the lake. /197/ C 133

On this morning horsemen again came riding up and talked to us OOC

January 16. At one o'clock in the night we reached the east rim of the lake /Koko Nor--Analyst/ and then followed along the dunes farther and farther south. These dunes consist of enormous sand heaps which rise up several hundred meters above the surface of the lake. Behind these a solid wall of mountains, without a gap, rises high and steep for a distance of several kilometers. There are few grass and pasture places on the east shore. There are no people living there. In the bright moonlight of the Tibetan highland one seems to see the minute details at a great distance; but every object is fallow, colorless, seemingly quivering and mosaic-like; we had to take care not to get lost. 133

Once during the night we suddenly and unexpectedly stood in front of a tent. Someone had erected an umbrella-shaped roof fastened to a long spear that was rammed into the ground. It was on the shore, in a pocket between two dunes. "These are thieves!" cried the government representative, the hsiĕ dia, who had gone on ahead a little way, and was on the point of shooting into the tent close up, without any further questions. By the time I arrived the inmates of the tent were awake. But they did not dare come out. "We are pilgrims on our way to the sacred isle in the lake, spare our lives!" someone called out from the tent in an anxious, pitiful voice in Tibetan. One of them began praying: "Om mani padme hung! Om mani padme hung!" But we also heard the sound of flint on steel. !Watch out! shoot before it is too late!" the hsiĕ dia again cried. "They are lighting their firelocks." I had difficulty in persuading the hot-headed, nervous men to ride on without shedding any blood. However, I myself believe that the people in the tent did not have the best intentions, for pilgrims are usually not armed and, besides, there is no road leading along the lake there. 000

By the time morning came the wind had died down. There was not an extraneous sound to be heard far and near. Only the little bit of snow that covered the ground creaked under our footsteps. In the early morning the temperature stood at -35°, and thus it was only a little colder than it had been the night before. All night long we had gone on; shortly after seven the night before we had left our unlucky camp and had marched on as quickly as possible, without stopping. At six the next morning, after eleven hours, we reached the southeast shore of the lake. We were all very tired now. The hsiĕ dia, without saying anything, had fallen behind, so we took a longish rest in order to wait for him, and since we had not had anything warm to eat for 24 hours, we decided to cook.

C 133 Our stopping-place was a wonderful spot. The shore very gently sloped toward the lake, /Koko Nor--Analyst/ in flat, rather indistinct terraces. Lagoons, haff-like formations took up this part of the lake and beyond them far, far to the west extended the ice which here, too, had been cut up into countless floes and later pushed together again, just as though the cold of winter had suddenly frozen the lake in the midst of its wildest agitation. From our cooking place we could also clearly see the sacred rock isle, apparently near the south shore. It was the first time I had seen it, and it looked as though it could be reached in a day, so clear and bright was the perspective. We did not see any human beings, nor any horsemen or yak and sheep herds, although the entire south shore as well as the region round about us was covered with thick grass. /202/ Just opposite us rose, steep and bold, the giant pyramid of Amne Sertschen (Amnye gser chen) (1). Whereas its base, covered with thick meadows, very gradually tapered off into the lake, its upper part showed the barren forms of the Tibetan peaks found in the steppes, and bare detritus slopes shone down on us from those heights. We were glad, after the terrible night, to see the first rays of the sun turn this peak to gold. [T 778] In truth, I understood on this morning why this mountain is sacred to the Tibetans and why they say it is the dwelling place of one of their ancestors who, as mountain spirit, can determine the weal or woe of every living thing that moves about on its slopes!

T 782 Our dead-tired and shivering little band had no easy time in getting a little dung fire started on this morning. With the help of a single bellows that we had rescued, the bit of snow in our pot gradually melted and came slowly to a boil. But when the longed-for drink was finally ready, Fen was the first to reach for the tea ladle which he had carefully taken along from our unlucky camp; he filled it two or three times with tea and threw its contents high into the air. "Arro!" he cried loudly. "A yā-ā-ā! Amne Sertschen, Amne Machin, Amne Bayan! Hail to you and all your brethren!

1. Amuni or Amnie, according to Klaproth and Rockhill Amye, means ancestor or grandfather. There are 13 such Amne-peaks in Northeast Tibet of which the Amne Machin is the highest and most sacred. Amne gser chen would probably mean "great golden ancestor," unless there is in the name a reminiscence of "Gesar."

N.w. China AF13
Tu ren

yüan bu. A single day's horseback ride took me there. (1) 361

1. Prschewalski's Yjam bu. In Prschewalski, Reisen in Tibet, translated by Stein, the Tu ren which I am about to describe are spoken of as Daldy, Doldy and Tunschen, and Prschewalski believes they originated in Samarkand and are a mixture of the Aryan and Mongolian race.

This Wei yüan bu is a little market town, ninety lis distant from 361
the city of Hsining fu toward the north-northeast, and is geologically 133
in the same red tertiary clay basin as the prefecture city of Hsining
and the monastery Gum bum. The edge of the basin is about 10
kilometers beyond on the north and east and it is only there that one
again finds granite and slate looming up out of the loess-covered
tertiary. Thus, from north to south the width of the red clay of the
Hsining fu basin is 50-60 kilometers. In modern times these red
strata were split up into so many valleys and ravines that even this
tertiary region has now become a bizarre mountain country. The
material is so soft that the valley bottoms of the larger streams have
been washed out to form wide beds. At the spot where Wei yüan bu
is situated a large plain several square kilometers in size has been
formed by the union of two such broad-bottomed, fruitful valleys.
This undoubtedly accounts for the location and the importance of
the place.

For, Wei yüan bu is an important town. It can even be called 361
a small city. It has a civil official who is now under the hsien of [624]
Hsining, it is the seat of a captain and second lieutenant, it has a
city wall, a full half-dozen pawn shops, and all kinds of craftsmen.
Above all there are important whiskey distillers among its inhabit- [274]
ants, who export their product as far as Lanchow and far into Tibet,
and /246/ many mill owners whose mills, like those throughout East
Tibet, are characterized by vertical axle trees and horizontally
placed paddle wheels. In the census of 1895 the town had 820 fami- [162]
lies. For me Wei yüan bu was important as the present-day chief
town and market-place of the Tu ren who are under the administra- [443]
tion of the hsien of Hsining.

Tu ren (tu jen) literally means "earth man." It is a Chinese 563
word and means "a resident." It refers to those people who were 167
already in the country before the last Chinese inundation. This
last large immigration of Chinese began in the Mongol Dynasty
[1260-1368] and still continues.

5: Tafel--433 T-3 (1905-1908) 1914 AJ1 Tibet

N.W. China AF13

133

/255/

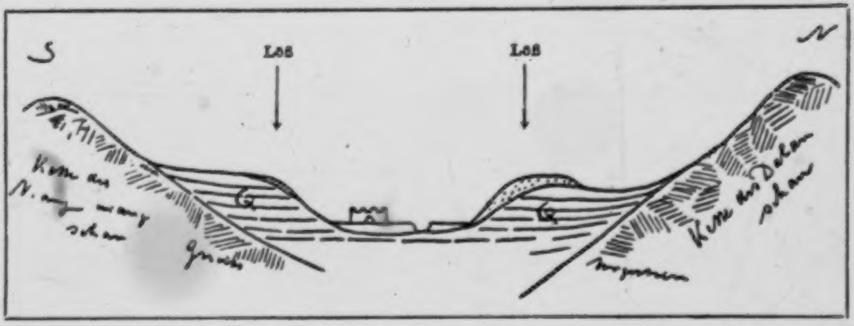
S
N
Löß
Löß
Q
Q
Kette des Niang niang schan
Gneiss
Kette des Dalan schan
Urgestein

Fig. 15. Diagrammatic cross-section of the Da tung hsien Valley. Q equals Que tă-clays and -sands, Hung tu-formation.

Chain of Niang niang Shan
Gneiss

Chain of Dalan Shan
Primary rock

133
361

5 Tafel--436 T-3 (1905-1908) 1914 II Tibet

Plate

Tafel LVII.

Photo. (Seen from the east.)

/256A/

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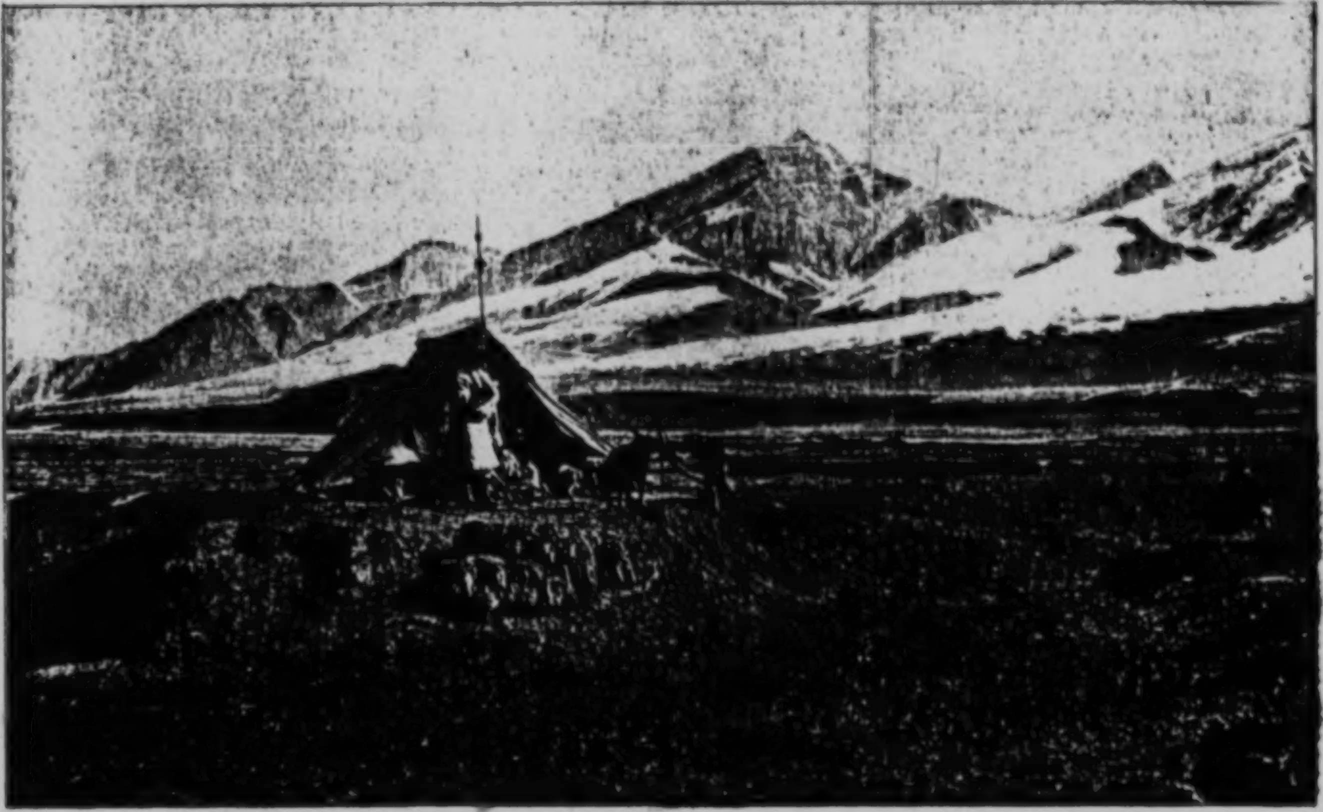
5: Tafel--437 T-3 (1905-1908) 1914 All Tibet
N.D. Cl[illegible]

/256B/

Plate LVIII



Camp in the Schara khoto Valley, view to the north.

132 atmosphere that scrapes our throat. The ball of the sun sinks in the west into a pale, grayish-white haze long before it has reached the horizon. And morning and evening the sky turns yellow, lemon-yellow and pale, and the entire firmament never catches any of the lavender and red tints, so dry and devoid of moisture is the winter air in those heights. The snow blanket which we Europeans like to see in winter comes only with the beginning of spring when the monsoons from the Chinese lowlands, from the moist coastal regions of southern Asia sweep up into the central highlands of the continent and when the moist warm air of the lowland has cooled off after it reaches the mountains. During the monsoon rains precipitation is greatest on the border of China and Tibet, in the regions where even the valley bottoms with their human settlements are so high that agriculture can scarcely be carried on even in these rather southerly latitudes, where the mountains suddenly seem to reach into the sky. Here the air, in passing over, discharges the largest amount of water ballast.

Thus on the ninth of March it began to rain in the miserable Chinese Mohammedan village of Bamba where I began assembling my new caravan. There, 2,700 meters high, the last wretched barley fields in the narrow valley border on the winter pastures of the Tibetan nomads and close by the mountain giants rise up more than 4,000 meters. At ten o'clock when I climbed into my saddle there was a dense snow blanket ten centimeters deep, from the night before; it was the first of the entire winter.

132 We quickly left the narrow, rocky valley, turned our backs to 133 the shrub- /258/ covered border mountain of Tibet and went back into the bare, yellow loess hills of China, and after only an hour's ride over loess ravines and loess saddles, there was not a patch of snow to be seen anywhere. Precipitation had occurred only where the air was forced to rise steeply upward. The loess-hill country at the brink of the Tibetan highlands had been waiting in vain for snow and rain for many months. Since we rode fast so that in the end we would not find the iron bars of the city gates of the Hsining frontier fortress closed in our faces, we moved all day in a thick cloud of dust which the swift feet of our ponies stirred up. We were surrounded only by barren, low hills composed of loess-covered reddish layers of gravel (100, 200 meters higher than the valley floors). Our surroundings shone dust-colored, yellow, grayish-yellow and blinding in the bright mountain sun. I hated this loess 000 landscape and I breathed a sigh of relief when in the evening at

c- 487 slaughtered. The little brook which runs through this valley ravine had, in the long winter months, prepared this obstacle for us. It had refused to let itself be bound by the winter's cold, but had, a violent fellow, again and again broken through the ice formations, flooded them, thickened them and piled them up until the result of its labors resembled a glacier.

And yet by noon already my caravan climbed up the steep and narrow pass of the La tsche Mountains, the Lao ye Shan as the Chinese call it, at an altitude of over 3,800 meters.

c 133 ● 487 The mountain range which I herewith crossed is part of the long chain emerging at Koko Nor from the mountain masses which have been leveled off into a sort of high plateau and coming to an end in the Lan chow fu region among the pliocene clays and the loess of North China. Altogether I crossed this range at six different places. Like several other ranges which emerge from the northern part of the East Tibetan highland, it gradually decreases in height toward the east. Like all the other mountain ranges north of the 32° north latitude, it contradicts Richthofen's theory of a sharp drop in the Tibetan plateau, a Landstaffel, on the Chinese side. Below Hsün hoa ting Shan the chain of the Lao ye is broken through by the Hwang Ho. Farther up it forms the watershed between the Hsining River and the Hwang Ho.

The path across this pass was poor. The animals gasped pitifully under their burdens and we made very little headway. Every few minutes the beasts would stop, panting for breath. Our progress was fitful.

For the first few days of our journey I had rented an additional three dozen mules or so; thus my eye fell upon an imposing file climbing up the steep slope. The caravan moved up toward the pass like a giant worm, winding its way laboriously, desperately twisting to the right and left, /262/ contracting and expanding, but nevertheless making headway and steadfastly striving toward its goal. Amid much shouting and the never-ending "aoaoao" of the Chinese drivers, we finally passed through a tight notch of a narrow ridge and arrived at the top, and from there we climbed down again on the south slope which was much steeper than the northern one, into a narrow rocky valley.

c [712] T 361 792 We passed near a Chinese wall (Ts'ien bu tsch'eng) in which a lieutenant with a small squad of men guards a frontier outpost. Soon after, we again saw a few fields, passed Tibetan farm houses, and saw Garang, the seat of a Tibetan prince of Ts'ien bu (rank). Long

5: Tafel--448 T-3 (1905-1908) 1914 AJ1 Tibet AJ1
N.W. China AF 13

Meanwhile a letter arrived from the amban yamen in which the aged Excellency informed me that he had warmly recommended me to the ŏr fu ting of Kue fu. I was advised to start my journey from the latter city. However, if one realizes that the city of Kue de and the large territory it governs, which extends ten travel-days southward, is not under the jurisdiction of the amban yamen and that therefore, according to the customary Chinese logic, the responsibility, in case I had an accident, would not fall on the amban but on the ŏr fu of the Kue de, then the gracious recommendation was all too transparent. But of course other circumstances forced me to start my Hwang Ho journey from there. ooc

A long tramp through a narrow ravine which was filled with rubble and was barren and deserted, brought me from I ts'e sche with my mules and horses to the banks of the Hwang Ho. My first task was to find out whether the way via Kue de would be possible, and therefore the bullocks were left behind at the Lao ye Shan. The valley of the great river itself which we followed upward for another few hours was bare and stony as the ravine had been. The nearest mountains all consisted of loose red conglomerates which offer little resistance to the summer rains and which are therefore so chaotically and deeply furrowed and torn up in so many thousands of places that even a mountain goat cannot climb their slopes. Blood-red Orgeln and pillars of clay and sand rise up skyward everywhere and one seldom saw a shrub, much less a tree or a house, but only occasionally in the distance a Tibetan temple site, a grotesque, strange-looking tschorten, the grave of a holy man. The road was deserted. I met few horsemen, and all of them carried guns and spears and had warlike miens. The right side of the river is also like a desert. There is a monastery in this desert which is famous because its Buddha image grows constantly larger. The devout inhabitants round about call it Tschang fo se, the monastery of the growing Buddha. Toward evening there appeared on the right bank of the Hwang Ho a thick clump of trees. There were a few larger valleys from the south that opened up there and conjured up a green oasis on the river bank. But we were still separated from the spot by a wearisome embarking and landing and a crossing of the Hwang Ho over 200 meters wide, which in summer becomes as much as 600 meters. The heavy, unwieldy boat is always carried far downstream by the current. It had thus grown late again before I reached the protective walls of the city of Kue de.

C 133

T [778]

T [792]

C 361

This city is at the moment the farthest Chinese station in North

5: Tafel--461 T-3 (1905-1908) 1914 AJ1 Tibet
N.W. China AF 13
Plate LXI

● 133
487

My caravan en route in the South Koko Nor Mountains.

Arrival at the new camp site.

/272A/

5: Tafel -462 T-3 (1905-1908) 1914 All Tibet

Plate LXIII.

N.W. China AF U

133

The steppe of Da ho ba, furrowed with deep gorges. (In the foreground abandoned tent fireplaces; on the horizon in the north the Semenov Range with the saddle of Shansibel.)

/2128/

5: Tafel--463 T-3 (1905-1908) 1914 AJI Tibet
N.W. China AF13

Plate LXIII

Limestone cliffs near Tschegr fitung.

Tall timbers in the Tschegi Idyibisten Range, 3,700 meters high.

133
137

/272C/

5: Tafel--465 T-3 (1905-1908) 1914 All Tibet

N.W. China AF 13

133

Plate LXIV.

Tschegr zdyibwen Mountains. (Sandstone of [illegible]) in the center of the picture the typical shape of an old ravine in these sandstone mountains.

/facing p. 273/

5: Tafel--484 T-3 (1905-1908) 1914 AJ1 Tibet

N.W. China AF13

From these stores there were always some that got into the trade each 713 year. For, although every Chinese soldier who deserted and sold his 703 gun was beheaded, this capital offense is so widespread, especially on the borders, that the mandarins did not dare place these repeater guns into the hands of their troops except in special cases, and preferred to equip their regiments with old muzzle-loaders. According to their superiors, there are very few soldiers who can withstand the temptation of running away and taking their guns along when the first favorable opportunity presents itself. They could always easily get 80-100 taels for their guns, in other words, a fortune with which they could rent a small field in some remote corner and realize their ideal, namely, raise a family. This was also the reason why in the exposed garrison of Schara khoto there was not a single repeater gun to be seen.

But let us return after this digression to my departure from the 000 Schara khoto Valley, from the yellow city, the city of the green meadows.

An easy climb brought me and my yak herds up the afore-mentioned 133 saddle of the mountain, to the water shed between the Hwang Ho, or the [illegible] sea, and the Asiatic plateau which is without an outlet. The altitude measured 3,420 meters. It is only 6 kilometers from Schara khoto to this pass which is not more than 300 meters higher.

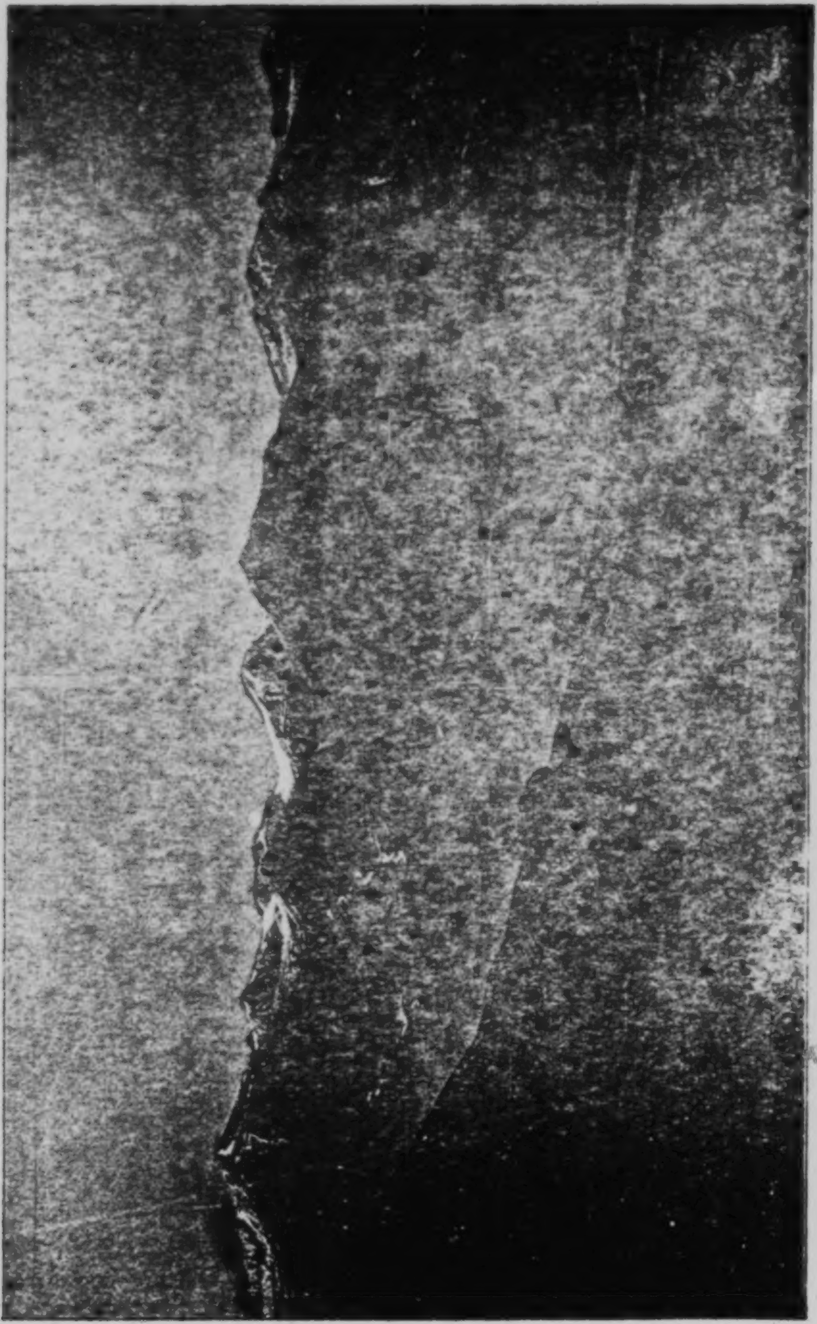
Suddenly I could see far into the distance. China with its loess 000 dust, its oppressively narrow valleys, its torrential brooks and streams lay behind me, had been overcome. I am at the top! A blissful feeling spreads through my whole body and with a joyful heart I see the caravan slowly cross the pass, group by group. I feel that I have reached the climax of my life. With this band I would surely succeed in getting an insight into Tibet's most hidden secrets. I could not control my emotions. I was forced to let my shouts of joy ring out into the magnificent sunny morning, so that my Tibetans looked at me in amazement and believed I was trying to invoke the god of the pass.

I stood on the roof of the world, which extended from the snows of 133 Pamir up to my flat watershed. The first yung - as the Tibetans say - lay before me, a huge wide and flat valley basin, high above the timber line, without bush or tree, with only a few rounded dunes in the middle. In a yung valley the water course is not the essential thing. These are valleys which originated in other ages, which have been produced by other forces than those in action today. Nor was it possible to say whether this yung below me sloped toward the northwest to Lake Koko Nor or to the southeast. I was standing in a saddle of

[text continues on p. 489]

5: Tafel--485 T-3 (1905-1908) 1914 AJ1 Tibet N.W. China AF 17
Plate **LXV.**

133



/288A/

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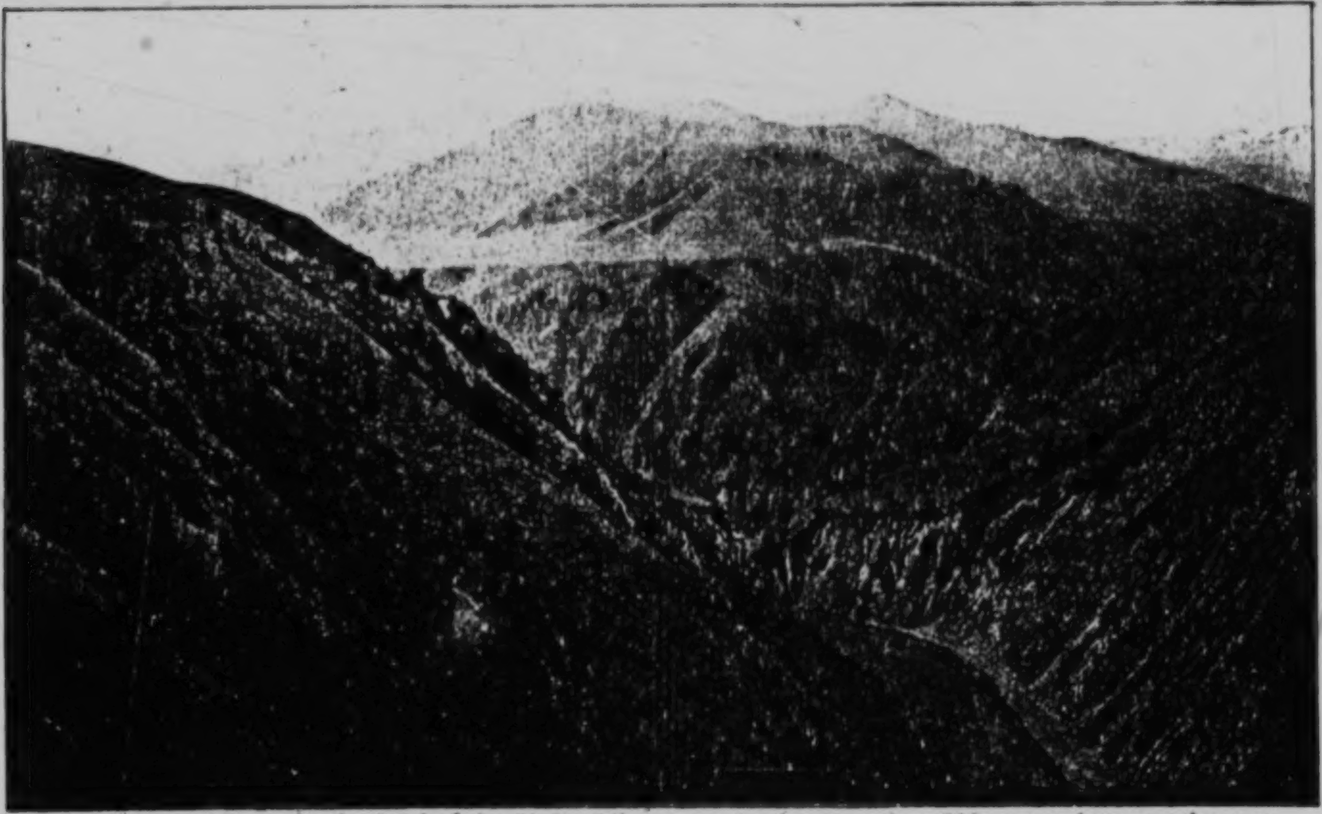
b: Tafel--486 T-3 (1905-1908) 1914 All Tibet
N.W. China AFU

Plate LXVI.



Tschürnong Gorge in the land of the Si cia Tibetans. (It was more than 300 meters between the spot where the photograph was taken and the river down below.)

/288B

On our way to Khara Nor.

5: Tafel--487 T-3 (1905-1908) 1914 All Tibet

N.W.China AF13

Plate LXVII

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/288C/

N.W. China AF 13

133 of mountain peaks running west-northwest and east-southeast; it was far in the distance that the yung expanses before me cut off the parallel rocky heights. I saw a few snow-covered peaks but there was nothing sensational in the outlines and forms of mountains and valleys. The magnificent light, however, the fragrance, the sheer splendor of the sun, the sharp contrasts, the pitch-black lines of the rocks and all th the small remarkably deep shadows cast by the smallest object, every root, every stone, imbued this landscape which at first seemed intimidatingly stark, with a unique and wonderful charm. The dry mountain air was so clear that one lost all sense of proportion. My surroundings looked small and at the same time infinite.

On the pass I left the large trade route which the previous European travelers had taken and which Filchner and I had also followed together. I bore left and rode across the valley that lay before me, without following a trail. After 12 kilometers I found myself 100 meters lower than the pass and only then I stood at the water course that flows through this huge longitudinal valley. I came to a tiny brook and with it the source waters of the Ara Gol which flows in countless bends northwest and into the lake. With one step we were on the other side of it. Somewhat to the left of my course was a swamp out of which, along the same yung, a brook flows southeast into the Hwang Ho. This valley watershed is not very much higher than the level of the Koko Nor. If the surface of the lake rose - should the climate become moist - it could easily flow off through this valley to the Hwang Ho and the present salt lake could become fresh again.

Characteristic for the Tibetan plateau are watersheds in the axis of long valleys, and in many places in East Tibet, as well as here, I saw the source waters of the streams flowing toward China first of all /289/ wind through such huge flat valley basins with only a slight gradient, appearing like a strange, miserable descendant of these valley formations. As a rule they do not cut in deeply until after a considerable stretch and then quite suddenly, forming a valley within a valley, a new, a narrow and in its whole aspect a "young" valley. The entire Tibetan plateau looks distincly like something left over from another era, like a piece of earth produced under other conditions. The rivers along its edge are attempting to give it a new form and the regions not connected with the sea are slowly being tapped by the rivers of China. At the saddle over which I came up from Schara khoto the brook almost encroaches on the valley floor

[text continues on p.489]

which today still belongs to the Koko Nor, and seeks to divert the water. 133

Shortly after twelve o'clock of this first day of the journey we set up camp in the middle of the large longitudinal valley (Plate LX). In other words, we did not get very far. Yaks are, after all, oxen and proceed slowly. If one could let the animals graze at night in East Tibet, it would be possible to extend the day's march; but since this is not possible because it is unsafe, one can only spend half the day in traveling. But during the short afternoon hours of our first day the animals sought in vain to get enough to eat. The herds of the nomads had left only the woody stalks of the dry winter grass which covered the earth like a thin yellow veil. (1) 000

1. This Ara Gol Plain is today inhabited by Tibetans and specifically by the Tschamri tribe. Until 80 years ago it was the land of the first banner of the Tschoros-Mongols with eleven squadrons, along the western part of which, on the lake, bordered the one Khalkha banner.

Our first night on the Tibetan plateau passed very quietly. After it had begun to grow dark the animals were driven into the center of the camp between the tents. We lay down to sleep at five different places around them and a guard carrying a loaded gun began to walk around the camp. Slowly the fires died down and the wind, too, gradually went to sleep. There was not an unfamiliar sound to be heard; nothing but the soft gurgling of the many ruminating cattle and now and then the shrill laughing call of the watchman broke the silence.

On the morning of April 24 the thermometer stood at -80°. We left the broad longitudinal valley and crossed a low branch of the eastern continuation of the South Koko Nor Mountains, that is to say, the ranges that extend south from the Koko Nor in a west-northwest to east-southeast direction for several hundred kilometers (Plate LXI). Although we marched ahead without any path whatever, we got across without any difficulty. Early in the afternoon we encamped on the edge of the next yung, a broad valley, that runs parallel to the one of the day before. On our way we had met many antilopes and round about our tent lived marmots who emerged from their holes out of curiosity and sat up on their hind legs, anxiously whistling when anyone approached. Our new camp had no water but there was still 133 [136] 000

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the fire for the rest of the night and held councils of war. And I sat wakefully in my tent, afraid that some of them might inadvertantly run away. For, what guarantee did I have that the whole thing was not a well-laid scheme? 000

On the following morning it was very late when the caravan got under way. Even before day break I hunted antilopes and afterwards marmots (Arctomys robustus). The latter had just emerged from hibernation and looked very poorly.

April 25. As our march continued I had no guide. My Tibetans had never been in this region, and the soldiers did not know a thing. It was my intention to avoid the large military road and work in the completely unfamiliar corners and the white spots on the map. I was also particularly interested in watersheds. /291/ But today I had the misfortune of getting into extremely difficult terrain. First of all, we crossed the basin-shaped valley, the edge of which we had just reached the day before. It contained beautiful pasture land, but it was too bad that it still looked so wintry and all the grass was yellow and dead. The valley was remarkably straight and was shaped like a giant trough. The lateral valleys opening into it are quite insignificant and disproportionate to the mighty dimensions of the main valley. In the middle we did not even find traces of a brook. That is why the nomads do not visit it except in passing, in spite of the abundance of grass, for the Tibetan women, exactly like our housewives, want to have their water close to the tent, no matter how little of it they use. 133

In the axis of this valley, farther toward the west, lies the Wayen or Bayan Nor, a fresh water lake several square kilometers in size, which has no visible drainage but which, in all probability, is connected subterraneously with lower areas farther to the south. Giant rubble and erratic masses are piled up here; these make possible a subterranean circulation of water. Most of the larger valley plains owe their shape and origin to the piling up of such masses. If one could clear away the loose material, one would find quite different surface formations.

After a few hours of travel we turned a corner in the rocks and the next parallel range extending northwest-southeast lay at my left. But at my right there suddenly appeared a labyrinth of steep and deep ravines. The rubble layers were split open at a depth of hundreds of meters and it proved impossible to cross these ravines with the animals. There was also a thin layer of loess here which had, in part, taken on the most grotesque forms. The rain had made inaccessible walls and slender towers of it, and great landslides had resulted from erosion.

theory of divide et impera, and it suits them perfectly if the natives massacre each other. The Chinese have no real interest in the country. If they had, how could they have tolerated the governor of the huge province of Koko Nor, my amban from Hsining fu, who lived outside his district and was a frail, childish old man who left administrative matters completely in the hands of uncultivated secretaries and interpreters, and who never ventured farther into his kingdom than to Tsaghan tsch'eng (to the place of sacrifice, 50 lis west of Schara khoto) where he never stayed more than one day a year! 631

On this day, when the soldiers realized that I turned south from the Bayan Nor, their leader said that they would not be able to accompany me any farther, that they had already gone beyond the territory controlled by their superior officer. I saw no reason to keep the worthless gang any longer. I gave them their salary, they kowtowed to me and soon disappeared in the opposite direction, singing merrily. With them went a final letter to my parents which duly arrived at its destination three months later. 000

South of the Bayan Nor and the South Koko Nor Mountains which I have frequently mentioned, there stretches out a huge steppe known as the tala. I now planned to cross this because almost nothing was known about the size and nature of it. The name tala originally came from the Mongolian and, like the Tibetan yung, means simply a wide valley in the steppes. But today the Tibetans of the region use the word as a place name. The flat surface of the tala is shaped like an acute-angled triangle. The acute angle lies at the extreme west, somewhat farther west than the Dabassu Nor, the great salt lake which is famous for its easily-obtainable and pure cooking salt. The north side of the triangle is the South Koko Nor range, the south side is a chain which has been entered on our maps as the Semenow Mountains, after the famous Russian explorer, His Excellency Semenow-Tian-schansky. /293/ It is 200 kilometers from the top of this triangle to its base. The base is 80 kilometers wide and is formed by the Hwang Ho which comes roaring through a narrow, steep crevice, 150 meters deep. The Hwang Ho enters this region from the south and after it has flowed across the plain diagonally, it follows the eastern extension of the South Koko Nor Mountains to the city of Kue de. 133

The great plain was a determining factor for the course of the Hwang Ho. It, at last, conquered the river which leaves Tibet after a wandering course. One can see the steppes continue on the right

133 bank of the river also; and the high terraces of red clays and sand which I mentioned earlier when I visited the oasis of Kue de, also belong to it. These terraces show that the plain formerly extended much farther. But the name "tala" refers only to the part on the left shore of the Hwang Ho, and is feared by all the people of the vicinity because of its scarcity of water and dryness. The tala soil consists of sand and rubble, and great stretches of its surface are covered with dunes which are often amazingly high. The Tibetans call it rdo tang, "stony plain," because of its many stones.

Here, too, the Hwang Ho is a most useless fellow. It has cut its bed so deep and thereby buried the level of the underground water so far down that no brook is permanently able to rise to the surface through the rubble and sand. We are confronted on these steppes with an ancient tertiary valley which was later buried. Geologically speaking, the Hwang Ho arrived late in this region and once it had turned into the valley, it could not free itself from it; moreover, it was forced to follow the old, buried rock channel toward the east and was not even able to clear out and restore the original shape of the valley. The stream's power of erosion has heretofore affected only the depths and has dug out a narrow canyon which the river races through in youthful exuberance.

487 133 Four European expeditions had come within the vicinity of the tala before me. But all of them traveled along its edges and stayed on the important traffic routes along the foot of the mountain range in the north and south. These have gradually become wide, stony roads, through thousands of years of use. On the Filchner expedition we had, at my suggestion, tried to take a new route. But at that time we struggled unsuccessfully to find a route from Bayan Nor straight across the tala, and we were finally obliged to follow the main road which Rockhill and Grenard had taken before us. "You cannot go differently, there is no other way!" we had been told at that time. "It takes three long days to cross the tala, three days without water; the horses and oxen won't hold out that long." A year and a half later I happened to hear the ting of Dankar say that in 1905 on his trip into the Ngolok country he had come right through this desert, and therefore I would not let myself be frightened off when a new exclamation of "impossible!" reached my ears. Without making a lot of inquiries I traveled south from the Bayan Nor. Luck was with me on this new advance; we came upon a dried-out valley that did not wind too much and along the bottom of this our oxen made rapid progress, in spite of the many stones.

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133 The town which I had come across was called Kabatalen and the river was the Tschabtscha Chu.

Now, inasmuch as on all our maps and even on those in the Stieler atlas a river by the name of Huyuyung Chu is shown as arising in the Dábassu Nor and flowing through the region in which I found myself, I was not a little baffled by the fact that my Tschabtscha Chu and the Huyuyung Chu were not supposed to be one and the same river. In order to clarify this point and make certain of it I did not travel due south from Kabatalen but turned around again and went in search of the Huyuyung Chu.

137 The days in Kabatalen and before that in the dry valley were very bad for the animals. There were many stones and there was little grass. The valley slopes were bare; they consisted of rubble, of many coarse granite and quartz fragments, and the poor beasts walked themselves foot-sore without finding anything. But on the valley floor and on the edge of the brook the winter grass was completely consumed except for a few stubbles and dried up, hard /295/ shrubs. In the lowest and most protected places also the new grass was not more than 2 centimeters high, and even these insignificant traces of it were to be found only on the edge of springs which are remarkably abundant in Kabatalen because it is almost on a level with the Hwang Ho. In spring the animals are exceedingly thin because the yaks are dependent solely on open pastures, since the nomads do not make hay and do not feed them during the long winter months. A few days of fasting and slight exertions and they are completely exhausted. Thus, from the beginning I was forced to count on losing at least a half dozen oxen when I crossed the tala. But after a day of rest in Kabatalen the prospects became much worse, and on April 30 when I left the Tschabtscha Chu Valley there were already more than a half dozen stragglers. In the evening three yaks were missing; they had remained lying in the sand along the way. The first longer trek was already too much for them.

133 132 At Kabatalen we had already left the valley of the Tschabtscha Chu and climbed up the plateau of the tala. During the first few hours of the morning we went over a hard and completely level surface like a huge threshing floor on which only now and then a miserable little plant grew. The soil consisted of pebbles that were solidly cemented together. A few dunes lay in our path, yellow piles 20-30 meters high, that looked as though giant hands had here worked with a winnowing shovel and separated chaff from wheat. Besides them the plain had been swept clean of the last grain of sand. The dunes

were of the typical and well-known barchan formation, crescent-shaped, flat on the convex side and straight and steep on the concave side. The convex side with its gradually ascending slope was turned toward the west. This clearly indicated that the prevailing wind in the taia came from the west. This westerly air current prevails during the cold season; it comes from the interior of the continent, is devoid of all moisture and dries the sand to such an extent that the latter follows the whims of the wind. The monsoon which comes up from the sea in summer cannot change the formation of the dunes because it is much gentler than the wintry west wind and is accompanied by rain which solidifies the masses of fine sand. In summer grass sprouts on the dunes, making it easier for the grass to go on growing during the winter. 133 132

Toward noon we reached a terrace that was three meters higher, and then an extensive zone of pure sand. Dune followed dune and made progress difficult for the animals. Here our losses began. 133

All day we had a small group of hills in the west as our guides. When we finally reached these, the surface of a lake suddenly appeared. A dark blue body of water shone out from among mountains of yellow sand. It was the Si ni Ts'o and at this lake ends the Huyuyung Chu for which I was looking. The Si ni Ts'o, like the Bayan Nor, I discovered, has no outlet, but like the latter it contains fresh water. Its greatest length from east to west is 5 kilometers and from north to south, 3 kilometers. A long narrow neck of land which extends into the lake from the west creates two almost completely separate lakes, a northern and a southern one. This promontory has a high, sharp ridge of stratified sand masses and tells /296/ us the history of the lake. The Si ni Ts'o is an old loop of the Huyuyung Chu. The river empties from the west into the southern one of the two branches of the lake, and it formerly flowed out from the northern one in a northwesterly direction. But this outlet is today dry and covered with sand. I suspect that the large springs in the valley of Kabatalen are connected with the Si ni ts'o. They are lower than the level of the lake and the water of the lake can without difficulty flow thither under the hard, top layers of sand and pebbles of the tala. For this reason, too, the lake up to the present time will probably not have become the least bit salt. (1)

1. Lake Si ni Ts'o is frequently mentioned in the "Meng gu yu mu dyi," but is entirely lacking on our maps up to now.

5: Tafel--499 T-3 (1905-1908) 1914 AJ1 Tibet AJ1
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133 Si ni Ts'o is not the only lake that owes its origin to an old loop of the Huyuyung Chu. A good day's journey westward there is another fresh-water lake without an outlet, the Gungga Nor, which Grenard discovered on his hasty flight after the murder of Dutreuil du Rhin. The Gungga Nor also contains fresh water. I visited it in 1904 together with Filchner and again alone in the winter of 1907. It is considerably smaller than Si ni Ts'o and seems to be connected by means of subterranean sands with the present course of the Huyuyung Chu.

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36! We encamped beside Si ni Ts'o on a sandy promontory, 50 meters above the lake; the place was very favorable for defense. Diagonally across the lake at a distance of about 2 kilometers we saw a large white tent on a small peninsula, otherwise there was not a trace of human beings far and wide. The big tent from the very first exerted a magic power of attraction for us. If it had not been so awkward to reach from our camp we should surely have visited it that same evening to discover what it meant. Even with our field glasses we were unable to discover a single occupant, nor were there any animals grazing in the vicinity. The tent seemed forgotten on the shore, only dull, mystical drum beats indicated that there was life inside: until far into the night the sounds mingled with the swish of the waves beating against the shore below our encampment. Only when, after midnight, a violent thunderstorm came up from the west, when lightning flashed and thunder rolled and crashed, did the rhythmic sounds cease, as do man-made noises in the face of elemental forces.

100 That night as I was writing in my diary and working on my topographical maps in my tent, big Tschang suddenly appeared before me, cleared his throat in order to be noticed and began in a flattering tone, "Sir, they all want to go back home. All of us are afraid. This morning you shot a crane. The spirits are angry with anyone who kills a crane; he will be punished with ill-luck and be obliged to follow the crane into death within the next three months. Fortune has already deserted you. Soon many more animals will be lost. We consulted fate twice with our dice and each time the answer was that we must all perish if we go on. I beg you in the name of everyone, release us from our contracts and if I may advise you, go yourself into a monastery for the next three months in order to cleanse yourself from the sin and free yourself from the spell. Otherwise you must die!" /297/

While these words were being spoken the rest of the men stood

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The tissue of lies that my men invented was very adroit but for me it had the great disadvantage of keeping me captive in my tent. As soon as Tibetans approached, I had to hide my nose and all day I was obliged to play the indolent lao ye. I felt like a prisoner, but finally I unpacked my books and became absorbed in Faust and in Penck's Morphologie der Erdoberfläche. In this way the days of rest passed all too rapidly. 000

On May 3 we decamped. On the rest days I had had two goats killed and their skin removed without making a slit in the abdomen. The resultant bags became our water containers for the forthcoming march through the desert. We figured that we would not find water for three days. The two goat bags had to suffice for us eleven men.

As soon as the hills around the Si ni Ts'o lay behind us we traveled on through very low undulations. Flat steppes with a nice high stand of grass alternated with pebbly earth, with groups of barchan dunes and with areas of long dunes consisting of mealy sand. Not far from the lake on the hills which consist of stratified sand full of limestone and that rise up 150 meters above the present water level, I found fossilized (Pleistocene) fresh-water mussels and petrified bones of mammals such as I had already collected at the Gungga Nor. I gained the impression that the valley plain was once much higher and that the storms from the west carry everything away from here that has not hardened and been cemented together by rivers and lakes. 133

Day after day now the sun emerged from the clouds. The snow which covered the steppes on the morning of May 1 had long since disappeared completely. But it remained hazy; we could seldom get a clear view of the distance and the mountains surrounding the tala appeared only occasionally and we saw only their general outlines. [132]

When we left the Si ni Ts'o we kept to a southwesterly course because I thought I would thereby get out of the tala most quickly. On the evening of the first day's march in the desert the entire sky was covered with blood-red flames. It is rare that the sun can thus color the air in arid regions. The Chinese therefore assumed that there would be a heavy downpour during the night, and set up the tents. Usually we all slept in the open in order to be on the spot in an emergency. The nearest range of the Semenov Mountains, the southern enclosure of the tala, were sharply outlined against the horizon. Broad snow fields glistened from the higher peaks, and glowed red in the last rays of the sun, and the narrow rocky ridges formed blue-black silhouettes, like charred rafters and beams of a 000

000 burning house. Everyone praised my good fortune and rejoiced that the end of the tala was not far off, and everyone assured me that the much-feared steppes would be behind us by noon of the following day. By /301/ making the detour over the Si ni Ts'o I had not taken the tala at its widest point. My men were so sure of themselves that, without asking my permission, they used up the supply of water except for a few swallows. More than half a bag was wasted in washing dishes.

After a restless night - three times we were bothered with a pack of wolves which howled at us with voices that sounded so human that we always thought we were about to be attacked by robbers - the caravan set out shortly after five o'clock on the morning of May 4. This time I took advantage of the cold of early morning. At five o'clock the thermometer stood at -7.5° Celsius. We traveled without stopping until one in the afternoon, when I read $+14.2^{\circ}$ Celsius on my Assmann. The animals which were still wearing their thick, long winter coats were so generally exhausted that we could not think of going on. More than a dozen oxen were unable to reach the camp site and all the horses had to be sent back in order to pick up the packs that had been left behind. It was midnight before the exhausted animals, led by H'an and Me, got into camp.

C 133 When it finally cleared at sundown the peaks of the Semenov Mountains did not look as though they were a step closer than on the evening before. Only a steep cone due south now appeared separated from the rest of the mountains and proved to us that we had progressed. The jagged mountain lifted its black crown impudently and threateningly out of the yellow masses of sand which embraced its foot. It was completely different in its whole structure and character from
T 778 the wall-like mountain chains behind it. It was the "Amne Bayan," the "rich mountain father," the sacred mountain of this region, a giant that stands guard not far from the Hwang Ho, and is said to contain unfathomable treasures about which legends are told by the neighboring people. It is situated a long way from the Semenov Mountains in the midst of shifting sands. There is supposed to be a tiny spring there which serves to refresh travelers, and I was also told of a sacred grove which the Tibetans guard anxiously, as well as of a temple inhabited temporarily by lama hermits.

In the evening when we were drinking our tea - there was just
000 enough for a cup apiece - there was a long and lively discussion as to whether or not the mountain had fooled us. The men from Kue de insisted that this was the case, for the mountain giant loves to do

136 reddish-brown, its short, upright mane and tail are black. The belly and the legs are a lighter color, often a dirty white and there are dark stripes running across the knees and the hocks. At the withers the stallions are 1. 30 to 1. 40 meters high; thus, they are as large as the common riding horses of the highlands. Especially when they were going fast, the animals were often to deceive us into thinking they were mounted. Soon after, we also saw tschiang herds coming from the left at a gallop, usually 15 to 20 of them and, in between, many delicately-built Dseren antelopes enlivened the yellow steppe which on the preceding day had been so completely dead.

133 Countless deep, well-worn paths made by the tschiang ran criss-cross over our route. We could not be too far away from water now. The valley continued to descend a little and later we came through a flat valley. In it we found remains of nomad encampments, meter-high wind-breaks made of dried cow dung and more than a dozen cooking places built of stones and loam, so-called takoa (Central Tibet: tab means "hearth") which not more than a month ago must have stood in the center of a black tent and been in use. But we searched in vain for water in the vicinity. The valley floor was completely dry, and not even a dry bed of pebbles was to be seen; nothing indicated that a stream had flowed through here even temporarily. The nomads seem to have camped here in late winter and early spring, at a time, therefore, when they could undoubtedly count on snowfall. But we did not let ourselves be diverted from the direction we had taken and rode straight on toward a small, isolated patch of snow that could be seen on the bordering mountains. /303/ We discovered on this day that the first row of mountains did not rise up very far above the plain filled with stone fragments which was the tala. That is what had deceived us on the evening before. In other words, we were still in the waterless desert.

OC Toward noon I rode on ahead of the caravan; only two female dogs accompanied me. For a long time now, some of the animals had been unable to keep up, and even the rest crawled along uncertainly and at a dragging pace. Half the animals had no packs. We had piled up a large heap of supplies in a particular spot along the way. We simply had to have water otherwise there would be a catastrophe which might ruin all my plans. I estimated we were still 12 kilometers distant from the first patch of snow; this, for the poor, tired bullocks was an almost endless stretch. Suddenly I saw my dogs pounce on a hole, and a few seconds later my good little horse was also greedily drinking. My clever Tschimo, the ugly old bitch with

5: Tafel--509 T-3 (1905-1908) 1914 AJI Tibet
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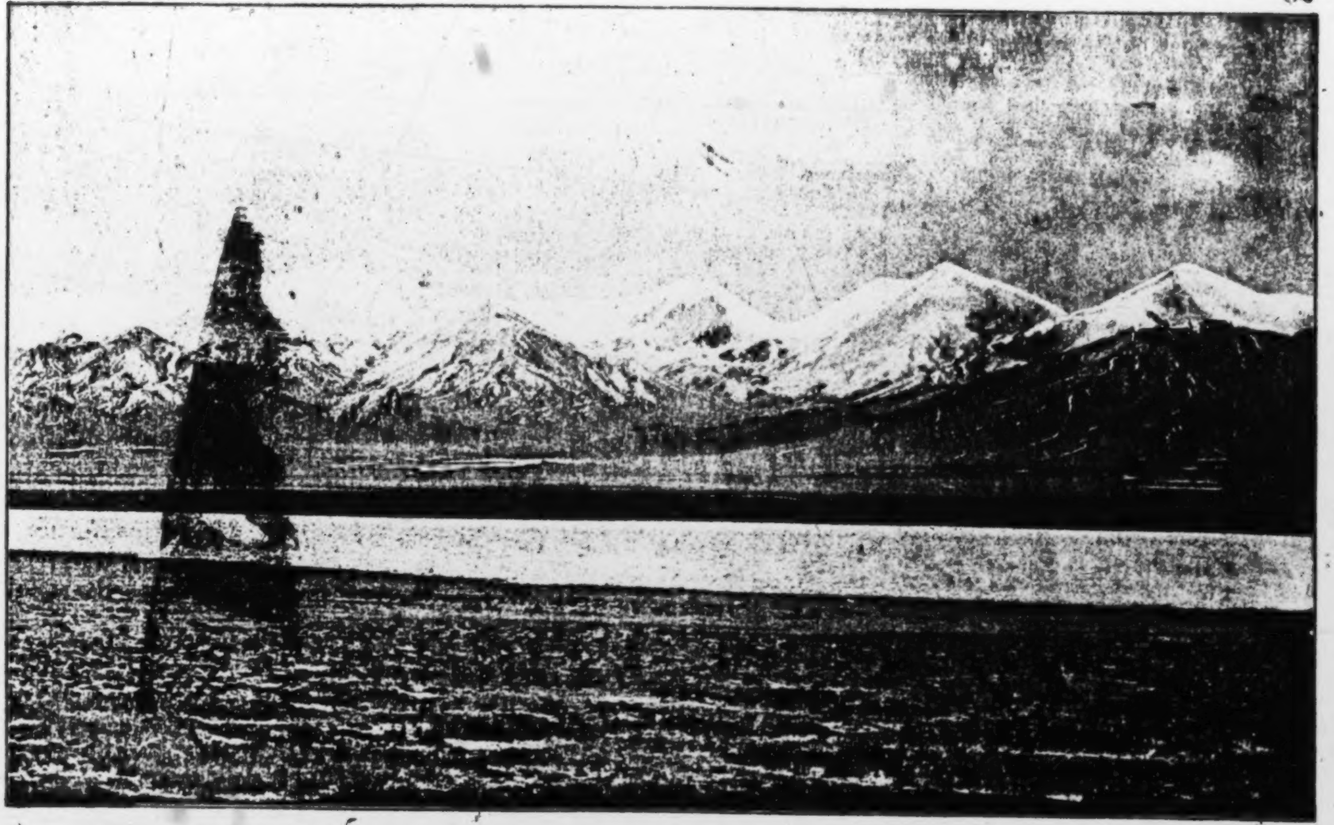
Plate AFU LXIX.



Peaks of the Wahong Chain to the north of Camp 42.

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Plate LXX.

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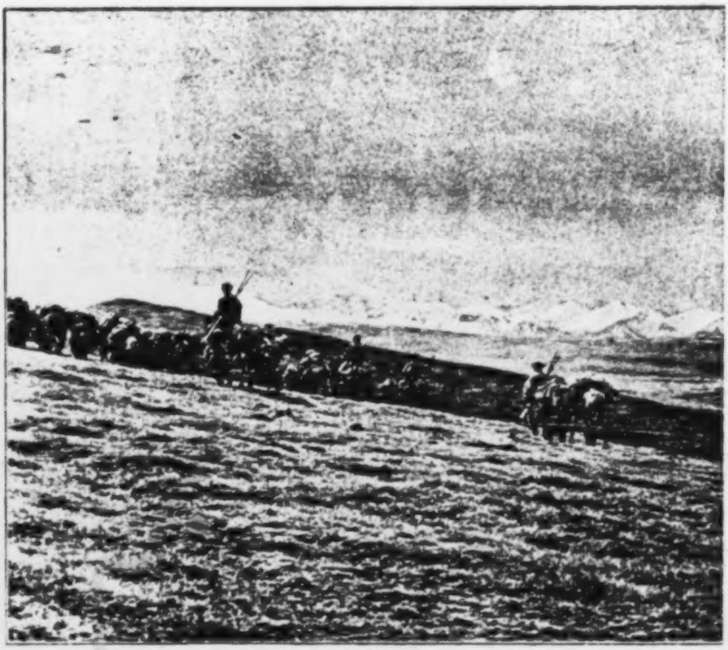

[illegible] pass of the Amne Matschin Range.

Valley of the Tschümar near its mouth in the Yangtze Kiang. (See Text in Volume II, page 53.)

5: Tafel--511 T-3 (1905-1908) 1914 AJ1 Tibet

Plate LXX

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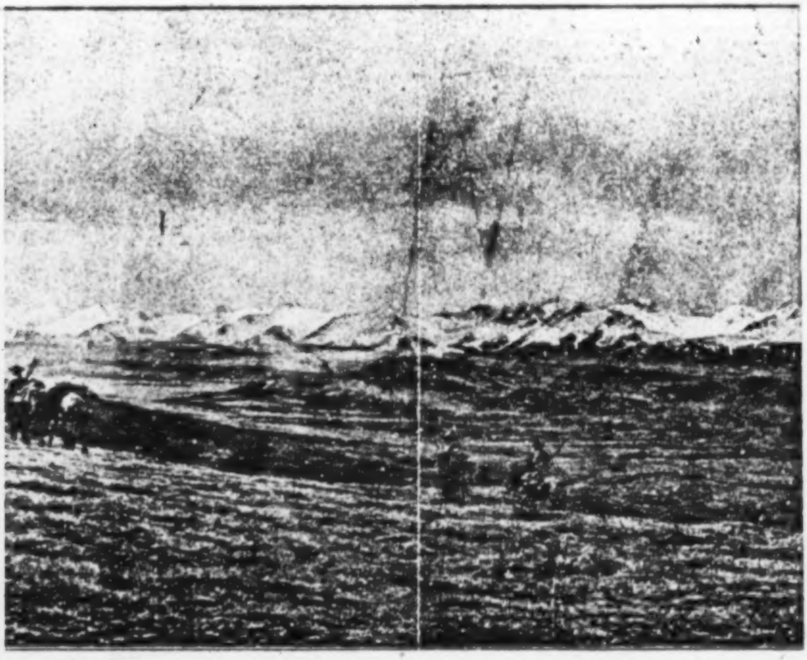
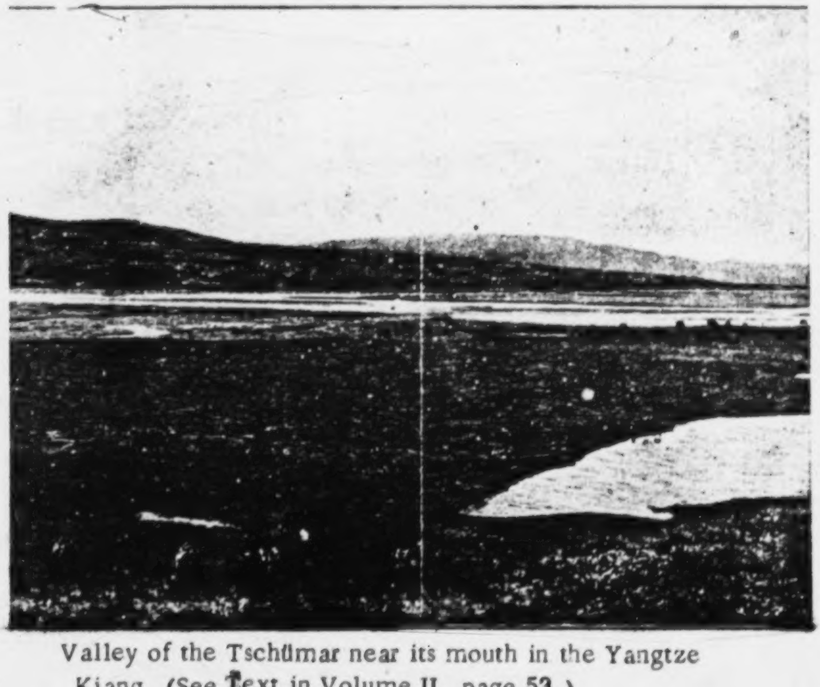


The western spurs of the Amne Machin Range.



Valley of the Tschümar near its mouth in the Yangtze Kiang. (See Text in Volume II, page 53.)

5: Tafel--512 T-3 (1905-1908) 1914 AJ1 Tibet

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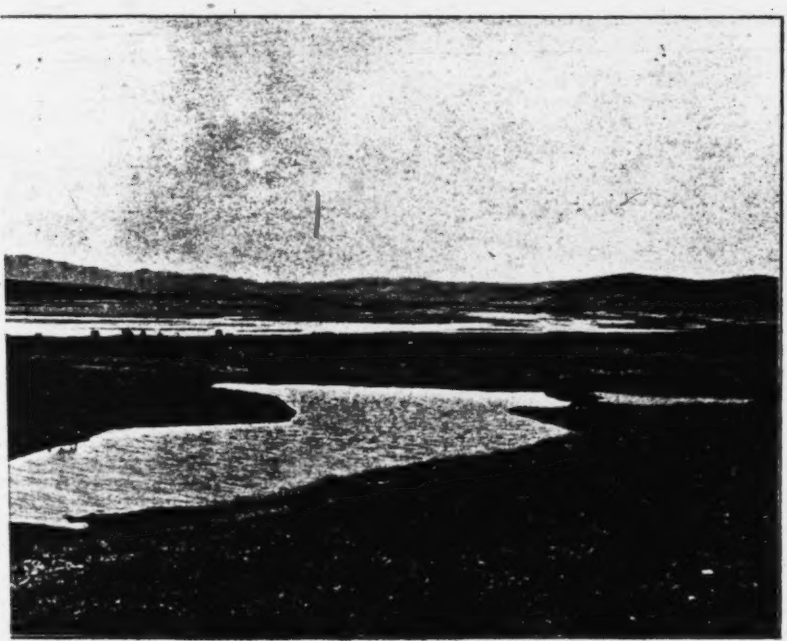
The western spurs of the Anne Machin Range.



Valley of the Tschumar near its mouth in the Yangtze Kiang. (See Text in Volume II, page 53.)

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487 direction. It brought us into a new, wide lateral valley that is situated beyond the sacred Amne Bayan and runs parallel to the principal range of the Semenov Mountains and the southern border of the tala steppe. Here we found a small stream beside which we pitched camp number 15. Farther southeast, in the distance, we could see the black tents of the Ats'o Lhardi Tibetans. We counted fifty tents. They looked like angular boulders, like mounds of termites against the still wintry, yellow prairie. We were still so far away from them that we could not establish communication. The entire tribe which carries on its own, independent marauding policy is said to have sixty families. Here, already, the Tibetans prefer to pitch their tents rather close together in order more easily to ward off attacks of other tribes.

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133 The region in which the tents stood, the lower part of the lateral valley, is called "hoka" which is a Chinese designation consisting of ho, "the river," and ka (kou), "the mouth" of the river. In the Kue de dialect kou is always pronounced like ka. Here, again, there is an old Chinese castrum which has long since been abandoned; the direct road from Kabatalen across the tala to the south leads past it.

The new longitudinal valley which we had reached at camp number 15 is 50 - 60 kilometers long. It emerges from the chains of the Semenov Mountains at a sharp angle. Like all the other valley depressions in the region, its bottom is filled with masses of rock fragments and thus it is wide and forms a steppe. The hydrographic conditions of this mighty valley are extremely peculiar, for there is no brook running along the valley. Instead, the small streams that come down from the slopes and ravines, at various places break through the mountain range that separates the longitudinal valley from the valley plain. In this way various watersheds have been formed in the bottom of the longitudinal valley. These are so low that at first glance it seems incomprehensible why the flowing water has not made its way along the valley, especially since the bottoms of these watersheds are made up of rubble and sand which would offer little resistance, whereas the ridge of the mountain barrier which the brooks have evidently cut through consists of perpendicular, hard stone layers (permocarbon). Naturally, these abnormal rifts have not been made entirely by the present-day brooks. They have been caused by the filling-in and leveling of the longitudinal valley by the enormous, oft-mentioned rubble masses. The latter was so tremendous here that the valley floor was shoved up higher than

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various points of the mountain-ridge barrier. The valley has been well-nigh buried in rubble and the mountains have been almost choked. There where deeper notches were present before the filling-in took place, the loose material made gradual inroads from one valley into the next. Thus today's brooks flow over these buried passes, /305/ and they have now even begun to cut into the strata of solid rock. Thus they have not yet been able to dig out a deeper valley in the rubble, as for instance at Hsining.

In the preceding chapters I have spoken of the filling-up of the valley basin of Hsining, Kue de, Di dao and many other depressions, in fact, I have reported similar formations in the territory of the Han and Dan Rivers, where old hollows were also filled in by huge layers of sand and clay and where river courses were diverted from one system of valleys to another. Traces of such deposits extend over a huge area of Central Asia. Everywhere it is clearly recognizable that they originated in a period in which folds of the large mountain ranges had already been built up almost to their present state and where the courses of many of the valleys had, in the main, assumed their present position. We can seldom observe in these deposits important tectonic changes and faults, unfortunately also few remains of plants and animals, so that a classification of the mighty deposits has not yet been possible, and the bones and teeth of mammals which show remarkably little variety of species have furnished the only clues to the age and type of formation. Nevertheless, they have proved that clays and pebbles of Kue de as well as those of Hsining, of a few valleys in K'am (Southeast Tibet) as well as those in the province of Shansi may be regarded as earth formations stemming from the end of the tertiary, and deposits left by running water. In North China we saw loess formations superimposed on these tertiary strata and distinctly separated from them. The loess formation conforms even more to the present-day shape of the country than the late tertiary clays and rubble. It can always be clearly seen that its formation belongs to the most recent period of our earth's history and that in many places it is going on today. Loess is also to be found on the Tibetan plateau, and not only on the edge, in the region of Kabatalen and Tschabtscha. But in Tibet there is little of it and it is confined to isolated patches that are almost non-existent compared with what one sees in North China. This fact, and even more, the rounded forms which have been little altered by running water and rain, make it seem more recent than that of the lowlands, and many a loess slope might be regarded as a

[text continues on p. 516]

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5: Tafel--515 T-3 (1905-1908) 1914 AJ1 Tibet

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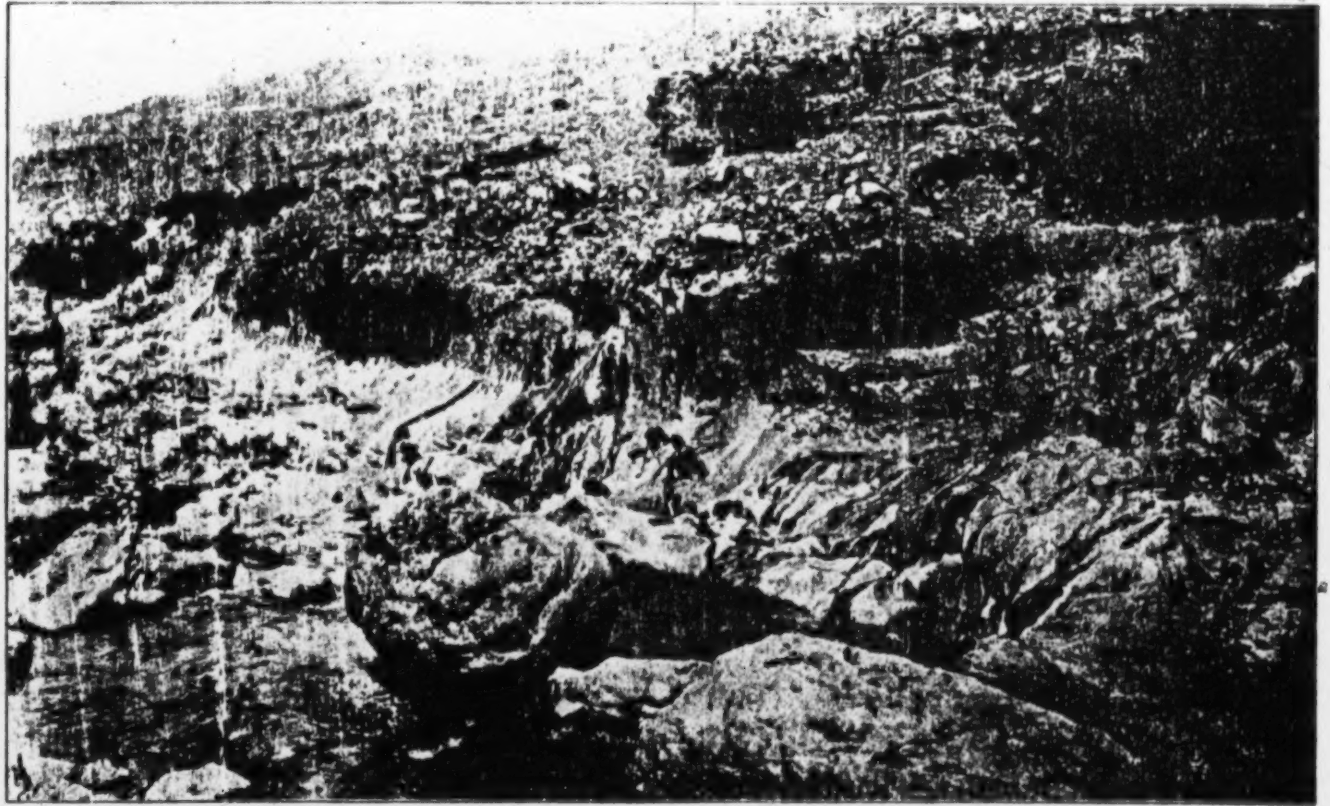
Plate LXXI.



The thermal spring baths at the [illegible] Pass. (Dr Tafel [illegible] bathing in the natural basin.)

/facing p. 305/

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193 deposit of the last centuries, to judge by its location. But the rubble masses which so often fill up the valleys of the Tibetan plateau, as a rule consist of large stones because they have never been carried very far. I found them occurring most frequently in the north. Clay deposits such as we find near Hsining and even more down near Di dao, are rare in Tibet; they alternate with rubble, are confined to individual spots, and very clearly indicate that they are remnants of former lakes and swamps. Isolated remnants of this kind which I found above 4,000-meter-altitudes in horizontal strata, show the same remarkable fire-red color as the clay deposits of Di dao, Kue de and other places down as far as Shansi.

The remnants of loess- and red hung tu-formations always point merely to great climatic fluctuations. Thus, in camp Number 15, I wrote down my immediate impressions of the natural phenomena I had observed, as follows: "The contrast between the yellow loess and the red deposits may be explained by great fluctuations in climate or rather in moisture, by long periods of rain and snow followed by a dry period. Only cosmic processes, the origin of which till now has been but a conjecture, could have caused this effect."

At Camp 15 we had a beautiful night, dry weather and a full moon. 000 We always arranged our camp so that the horses and mules were in the center, for they are the easiest to capture. They were attached by two's to a long chain by means of iron man-traps. The keys to these shackles were handed to me in the evening by my men and were kept in my pocket during the night. The bullocks which are more clumsy and therefore not /306/ as easy to drive off as the solipeds, were tethered in a double circle around the horses. The packs lay outside, stacked up like a small fortress, while we human beings slept on the very outside in six different places all around the camp. In this way I hoped to be best protected from thefts and robberies. I myself had a large felt blanket to sleep on and a second, thinner piece of felt which covered my whole body and made a water-proof protection on top. My bars of silver were packed in two chests and buried in the ground under my bed. Under my head I had a Tibetan saddle /Bocksattel/ so that I would have to wake up at the slightest suspicious noise. On the Tibetan steppes, of course, one is unfamiliar with what we Europeans consider a comfortable night's sleep. The curs are always yelping. A soft groan from one of the ruminates, the rattle of a chain startles them and sets them off. When the watchmen cry out their weird "Schschau! schau! schau!" into the night, the dogs all begin to feel uneasy and then the purposeless yelping

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increases. But we learn to wake up rapidly only when the barking sounds really serious. Then if wolves were creeping around in the pale moonlight, we quickly turned over and went calmly to sleep again. In the Tibetan steppes only man is a danger to man. 600

At Camp 15[1] too, a small pack of wolves appeared when it had grown dark and the camp had retired for the night. The moonlight was so bright that one could recognize the animals even at 300 meters. This time there were eight of them that circled around us. Dolefully whimpering, they sniffed with their noses in the air. We could see them at their full height against the bare ground. As soon as they looked as though they were coming toward the camp, my dogs dashed out with mad barking and the two opponents then stood looking at one another, baring their teeth. Neither the dogs nor the wolves were great heroes. The dogs showed courage only when they were accompanied by a man, but even then they were loathe to go farther than 100 meters from the camp. The wolves, on their part, tried to approach like thieves; when they caught sight of one of us human beings they dispersed timidly and ran off. I could not get a shot at them. 136

That night the temperature went down to -6^{0}. As usual, the coldest period was just before sunrise. At six in the morning the caravan was packed and ready to go. We quickly crossed the rest of the longitudinal valley and climbed, at first without a trail, following a ravine, up the principal chain of the Semenov Mountains. But on account of the pack animals I was soon obliged to encamp again. Thus, our day's work did not amount to much. We had gone only 10 kilometers, but had climbed 600 meters in doing so. Our camp was 3,880 meters above sea level. There was an abundance of grass and the animals fared much better than at Schara khoto where, even during the winter, the last dry blade had been pulled off, but even here there was nothing but dry, dead grass from the year before. 133 ●

The Semenov Mountains have not been clearly defined. The name was introduced by Obrutschew. He was looking from the South Koko Nor Mountains much farther to the northwest, /307/ at the Dabassu Nor, and saw to the south of him a new parallel range which, since a native name was lacking, he called after the head of the Imperial Russian Geographical Society, Semenov Tianschanski. (1) The

(1). Peter Petrowitsch Semenov Tianschanski, born 1827, traveled through Tien Shan in 1857-1858. He died in March 1914 as the Nestor of Asiatic research.

[1] [In a valley emerging from the Semenov Mts.—Analyst]

133 part of this mighty chain which I was now crossing with my caravan had been indicated on our maps as the Siansibeĭ chain since the time of General Prschewalski's journeys. Up to now it was not clear whether this chain discovered by Prschewalski had any connection with the Semenov Mountains. Now as a matter of fact, in the eyes of the natives, Siansibeĭ is only a pass which I myself crossed on the following day and which I discovered to be 3,800 meters high. The mountain range around the pass does not have any particular name for the natives; they give names to peaks and passes only. Thus, it is possible in Tibet to proceed after the fashion of recent Russian explorers and introduce foreign, if possible proper names for the individual ranges. These foreign names have the advantage of showing immediately that they are not local designations, but that they have been introduced by individual travelers in their explorations and in their effort to untangle the knotty problem of Tibetan Mountains. If, as our knowledge grows, we realize that the demarcation of individual mountains has been wrong, we have found that European designations of mountain ranges are easier to change than ostensibly local names.

487 485 712 Up on the top of the Siansibeĭ Pass we came upon the large caravan road that leads from Bayan Nor and Kabatalen across the tala to the south and along which - as I now noticed for the first time - there stand loam fortresses every 25 - 30 kilometers, as a protection for travelers against nocturnal attacks. We continued to follow this road and set up Camp 17 within such a loam fortress. The loam walls had been erected probably half a century before by Chinese soldiers. Now they stood empty and partly in ruins but within them we felt infinitely relaxed and safe. I slept like a god between the three walls that still stood upright, in spite of snow and hail which were accompanied by an icy westwind.

133 316 The descent south from the Siansibeĭ Pass is extremely gentle. Already at an altitude of 3,600 meters one leaves the Semenov Mountain range and thereupon has a wide view across a new steppe which slopes toward the southeast, and once more looks down on a longitudinal valley covered with rubble. A few brooks have cut a bed 200 meters deep into this rubble, and far in the southeast a long, dark crevice with vertical walls stood out sharply against the pale yellow gleam of the steppe. "In that flows the Hwang Ho," my H'an said immediately. He had formerly often come through this region in search of gold and had even, on his way home, gone down the Hwang Ho on a raft. The river flows so deep down that one can see its waters only when one steps close to the edge of the fissure.

khadar as well as a few trifles such as knives and boots, as a present T 619 and as remuneration for the grass which our animals consumed. I 609 myself went on with the rest along the road which, from the time we left the Siansibei' Pass continued south almost in a straight line and was broad and well-worn. We set up our new camp at noon in one of the old loam fortresses, the so-called Ga fo ying pan. At the advice of my companions I now wore the dirtiest and shabbiest sheep skin and my long queue, which looked as though it harbored lice, on top of my head, and helped drive the animals of the caravan. When I had to halt for a few minutes on account of my cartographic work, I disarranged one of the packs as inconspicuously as possible and then sketched and took bearings behind the animals until the packs were tied up again. For we were no longer traveling alone. Scarcely had we come out of the Da ho ba Ravine when a few horsemen armed with swords, matchlocks and lances 4 meters long joined us. We were inspected and, with a sinister mien, asked "Where from?" and "Where to?"

Late in the afternoon my emissaries returned, satisfied with the T 437 reception that had been given them. The humbo had not been at home. He had ridden forth to meet his scharba i.e., his Sung pan merchant, in order to accompany the latter's caravan safely to his tribe. Almost every tribe has such a merchant who appears each year with a new stock of goods, and stays six or nine months in the camp bartering wool, skins, musk and stag /310/ horns against his tea and other luxuries desired by the nomads, and who always returns T to the Chinese lowland for only a short time. Often such merchants, [582] even if they are Mohammedans, are married to Tibetan women.

In the absence of the chieftain, his wife and brother-in-law played T 574 hosts to my men. Tschang played his part so adroitly that the brother-in-law came riding into our camp that same evening with a present of milk, butter and tschuma, the pea-sized roots of Potentilla anserina, and stayed overnight with us. The next morning he showed us all the sacred spots in the vicinity and arranged to have us exchange a few yaks with members of his tribe.

Our camp in the Ga fo ying pan was charmingly situated. It C 133 stood on an evenly-sloping, grass-covered rock terrace, on which the first fresh green was just beginning to show. On one side - only a few hundred meters from our tumble-down loam fortress - there was a narrow gorge, 150 meters deep, with sheer, perpendicular walls. Isolated tall trunks of fir, white pine and a cembra-like pine, which flourished beautifully down below in the sheltered fissure, C 133 stuck their gnarled, often tattered crowns out of the crack at the edge of the terrace (Plate LXII). Trees did not seem to grow above the area protected from the wind, as is also the case, for instance, on the North Atlantic Faroe Islands. The brook had dug its way into the hard, primary rock of limestone, as in our Alpine gorges. Its water was partly hidden, and almost flowed underground. In one place the fissure, at the bottom of which the watered gurgled, was only two meters wide and giant fallen trees formed natural bridges across. Toward the southeast of our camp, on the other hand, there rose a high limestone cliff with grotesque rock walls, with countless grottoes and points (Plate LXIII). Out of its cracks, isolated wind-torn firs grew T [192] 823 rampant. There was a small monastery in among these limestone cliffs. [1] Our friend referred to it as Tschegr fisung gomba. The region was so unique, so romantic that the Tibetans firmly believed it must be blessed by the gods, and that benign and mighty mountain gods must have established their dwellings here. For this reason hunting T [194] was forbidden all through this area, so that the spirits might under no circumstances be offended. The country was regarded as the Garden of Eden. Each sharp point of the mountain had a particular meaning or story for our guide. Here we marveled at a table of the gods, there at a giant altar on which one was supposed to make offerings and burn mountain cedar. Here was a jag of rock all hung with tufts of sheep wool, there a spot was pointed out to us where the imprint of a mountain spirit's foot was supposed to be smeared with butter by the devout. The terra rossa that grew between the limestone cliffs was the best medicine, we were told. A natural hole in the rock was used as a test of virtue. It was just large enough so that a medium-sized man, if he turned, could squeeze through. The hollow had become quite smooth and greasy because so many people had squeezed through it. To please our guide, we each of us in turn had to pass through this hole of virtue. For me, with my 1.82 meters it was a precarious undertaking and I do not know whether I should ever have seen daylight again if I had not been pushed from the rear and pulled from the front. "People with noses like that are never good," observed our guide afterward. "Why did you take along this /311/ T strange-looking servant?" he said, turning to Da Tschang.

788 423 The limestone mountain is regarded far and wide as sacred and as having healing powers. The Tibetans take week-long journeys to come here and beg for protection from pestilences for their herds. "It is more important and profitable for us to treat our mountain spirit well than to undertake a journey to Lhasa, a pilgrimage to this

[1] [Near the Da ho ba ravine.—Analyst]

T 756 [515] she must never have brought her skin in contact with water. Of course a woman is not supposed to wash, for to do so would mean washing away her good luck. /312/ The thousands of deep wrinkles, large and small, in her face and the upper part of her body were stiff with grease and dirt. A thick, black layer of dirt covered her arms and legs, - during her work she went barefoot for religious reasons, in order to be like Buddha. Bareheaded, her head shaved, around her neck countless leather pouches containing amulets, which hung down to her withered breasts, her body covered with an old sleeveless priest's garment, hollow-eyed and hoarse from having treated Sung, - thus the old nun sat before me. During the pause for lunch she had cozily knitted a sock with thick iron knitting needles. Now she was as transformed. She stared at me. With a clinking bell in her left hand and a tinny-sounding tambourine made of two human skulls in her right, she began yelling at me, at first in a bass tone, then shrilly and piercingly, more and more rapidly and terribly. Now she drops her bell and tambourine and with a satanic howl she almost sticks her thin, claw-like fingers into my face. Then she strokes my body with supple, coaxing movements like the most skillful hypnotist and a moment later the bell-ringing and tambourine-beating are taken up again, so hastily, so swiftly that the witch's rushing words, her incantations and maledictions, all her Tibetan corruptions of Sanskrit words afflict my weary ears like a melody. She worked over me thus for two hours, and at the end of that time the bad spirit of my illness was supposed to be expelled. But afterwards I could not sleep well for many nights. I kept having the same dream, and over and over again the old tschumo passed her dirty claws over my face and woke me up.

T 795 The tschumo of Tschegr fisung belonged to the Bönbo sect, she turned her prayer wheel to the left, that is, counter-clockwise. Bembe (Bönbo, Bonpo) are rather frequent among the tent Tibetans in Northeast Tibet, but probably there are no more than anywhere else in Tibet. They are adherents of the first Tibetan shaman cult which today, however, has undergone as important transformations as Tibetan Buddhism itself. They have taken a great deal from lamaism. The strange thing about its distribution now is that it is rare for whole tribes to adhere to the Bönbo faith, usually only individual families have remained Bönbo.

C 133 From Ga fo ying pan we went almost due west. We aimed to cross the next mountain range. We now had to climb over a mighty chain which showed a strike of N 45° W., and which was built up of extremely steep and, for long distances, of absolutely 133 vertical layers of Permian sandstone and argillaceous slate slabs. A labyrinth of quartz veins gleamed out of the dark green and blue rock. This white quartz is the parent rock of the gold that the Chinese wash out of the valley gravel. We began our ascent just beyond our camp. To the left and right of our route countless peaks showed a snow-cap. In accordance with the vertical layers present, the mountains showed a complex structure, but there were no sharp outlines anywhere. The rock was too soft to admit of large rock formations.

On the second day after we left the tents of the Schüch'tsong Tibetans we already crossed the easy pass of Tscheger tscheibtsen (rdyibtsen) la whose /313/ altitude I determined with a boiling /Siede/ thermometer to be 4,255 meters. However, the peaks are 1,000 meters higher. A barren highland valley now lay spread out before us; it ran straight as an arrow to the northwest. But immediately beyond it new peaks arose, and a new high and unfathomable wall of mountains stood in our path. The barren valley was shaped like a kneading trough, and the secondary ravines terminated in the mountains round about in the shape of broad, round depressions. All the peaks that were not covered with snow were thickly strewn with angular fragments of boulders.

The vegetation was frighteningly sparse. In the bottom of the 137 large valley as well as in a few valley pockets there were highland moors that showed denser coverings of grass. But these were interspersed with thousands, nay, millions of small water holes so that the plant covering looked as though it were moth-eaten or like a sieve (see Figure 17). The plants were all only 10 centimeters high. Added to that, it was mid-winter. The temperature rose to above freezing only minutes at a time. The individual tufts of grass were frozen solid and the poor animals slipped off the round plant cushions at almost every step into the half-meter- and often meter-deep puddle holes which now in winter were almost dry and filled with pointed, sharp needles of ice. In the turf of these highland moors - the Tibetans call them naka - the Carex genus predominates and the animals reluctantly ate the hard stalks of these. (1)

1. In many of these naka holes there are countless iron bacteria whose metabolic products, ferrous oxide precipitation, is deposited at the bottom of the puddles in thick red crusts.

5: Taffel--526 T-3 (1905-1908) 1914 AJ1 Tibet

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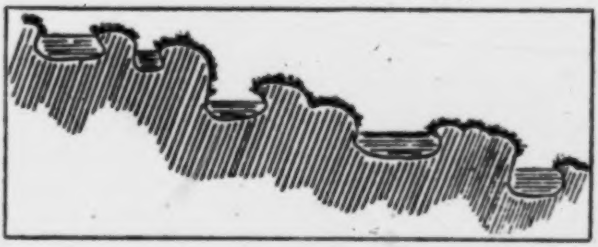

Fig. 17. Diagrammatic cross-section of a mountain slope with naka puddles. (The horizontal lines indicate the water of the puddles.)

lying in wait, and they did not move. Are they scouts of a robber band? Before I retired I filled all my pockets with cartridges and once again examined the mechanism of my weapons. 000

May 18. Contrary to all expectations, the night passed quietly. A double sentry had been set up. And we all, without exception, slept in the open. This is no fun at a temperature of -12°, especially when every few minutes a shower of ice particles blows in over the mountain peaks, so that one feels as though one were on a polar expedition. I myself was somewhat equipped for this, but most of my men, besides their every-day fur and their felt rain coats had only a thin fur cover between themselves and the icy ground. The most annoying thing I found was the hoar-frost that formed on one's body, as well as the needles of ice that seemed to scratch one's face raw at every movement. The cold, loaded guns also did not make very cozy bed partners.

Today, as usual, we were in our saddles shortly after six o'clock. C 133 After a laborious ascent we crossed a mighty moraine wall at 4,310 meters. It was covered all over with puddles and divided the large longitudinal furrow of the Sarong Valley in half into a northwestern and a southeastern slope. This watershed was called Ser yung gunka. We followed the furrow of the valley in a southeasterly direction (Plate LXIV) and thus soon got into lower altitudes. It was not long before there were abandoned cooking hearths by the roadside, camp sites of the previous summer. We now aimed at a large and deep valley that pushed in from the west. Behind this valley, toward the south, our glance took in a huge alpine landscape. Countless long mountain ridges, /315/ snowy peaks and snow-covered crests, one behind the other formed the horizon. The whole territory on the left side of the Hwang Ho shows extremely high mountain ridges, but is very much cut up because of the summer monsoons. Heights of more than 6,000 meters alternate with valley floors of 3,500 meters.

During today's march we suddenly came upon the four Tibetans who T 619 had disturbed us so very much the evening before. They were allegedly hunting kyang and said they belonged to the Wanschdach' Lharde tribe. When we called to them one of the four turned around and yelled at the top of his lungs: "Come on, come!" They wanted us to believe that they were not alone, that there were other armed men behind the nearest hill. But actually there were no others.

Camp 23 lay 3,790 meters high and during the night the temperature went down to only zero, although hardly an eighth of the sky was T 233 overcast. After we had traveled only a few kilometers down the

000 commit suicide, only to make things uncomfortable for me. Chinese, as well as Tibetans believe that it is easy for a dead person to take revenge on a living one and that this type of revenge is exceedingly sweet. If I had not had Mohammedans with me, I would have lost this fight over the opium with the personnel of my caravan. With their help alone I effected my purpose of becoming the opium supervisor of my men and cutting down on their daily rations somewhat each day. In this way I controlled the opium threat within three weeks. But on May 22 and 23 Lao Tschang, a man of 45 and a cousin of Da Tschang, howled like a dog all day long because he got less than his quantity of opium.

137 Not far from the tents of the Sidia I had more ill luck. The most valuable of my riding horses, a five-year-old, dark bluish-gray pacer suddenly fell sick. It trembled all over and could walk only totteringly. We soon pitched camp, but the animal nevertheless collapsed. It had eaten du ts'a, a poisonous grass, that not infrequently occurs in Tibet. Many horses die of it. The most unpleasant thing about this type of poisoning is that horses never learn not to eat this grass. I was told that horses sometimes become sick three or four times in succession. But in most cases the poison is soon fatal.

796 May 23. According to the Chinese calendar this is the first of the leap-year month. Last night the men built a large altar of earth and stones. At sunrise they performed their sacrifices on it. Tsch'eng blows into a shell, sprinkles water, and everyone prostrates himself before the rising sun. Cedar twigs which have been brought from the Ga fo ying pan are burned as well as a few grains of rice and /319/ pieces of tsamba dough. This service is held on the first and the fifteenth of each month. Seen from my tent, this cult always looks very biblical.

133 We had been traveling in the Tschürnong Ch'u Valley for a long time now. In the Sidia Fan tse territory this valley is many kilometers wide and is almost a plain with low roundish rows of hills for a distance of more than 50 kilometers, up to the other side of the Hwang Ho. The Tschürnong Tschü River itself, however, we saw for the first time on May 24. We were amazed when we stood before a crevice over 200 meters deep, in which, far below the river rushed along with dashing waves (Plate LXVI). Such contrasts are not to be found anywhere in our Alps. Here there was an unfathomable rock terrace covered with low grass and clearly recognizable as the floor of an ancient glacier, while in the very center of it was a deep, precipitous gorge, full of rock fragments, cataracts and eddies, on whose walls

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grew firs and cedars. The landscape was crowned by the rocky cone of sacred nTobder which far down was covered with snow, and whose peak was characterized by a huge altar and a labrtse that could be seen far and wide, where the natives offered sacrifices on certain days.

The Tschürnong Chu is the largest left tributary of the Hwang Ho in all Tibet. It marks the boundary between the Panak'a and the Ngolokkaksum. It comes from the western foot of the Amne Machin, flows in a wide bend to the north and then, like all Tibetan rivers, follows the prevailing strike of the rocks for some distance and hurries on toward the Hwang Ho in an east and southeasterly direction. It is notoriously dangerous. Even at Hsining fu people told me many bad things about it. In fact, it was because of the Tschürnong Chu that I wanted to travel from Kue de up the right side of the Hwang Ho. It is dangerous not so much because of the actual amount of water it contains but because of its falls and the depth of its bed which is largely cut into vertical walls of rock. There is no ford anywhere.

Accompanied by a servant, I climbed down to the bottom of the ravine and tried to get across at the point where a large yak road leads across the river. But my horse lost its footing just a few steps from shore and the current carried us along willy-nilly. Mindful of the instructions I had once received when I was with the dragoons, I slipped off the horse's back into the water and swam along beside the animal, holding onto its mane. But even though the horse was thus relieved of its load, although it was naked like myself and neither its saddle nor even its head harness could form an impediment, nevertheless we had great difficulty in reaching shore. When we reached shore the first time it was so steep that the horse could not gain a foothold. We were obliged to let ourselves be carried along once again. The poor beast finally reached shore 500 meters farther down, but it was stiff with cold and short of breath because of the rarefied atmosphere. Yaks swim better than horses, but I would have had to make them swim with their packs, and so I had to abandon the idea of exploring the mountains south of the Tschürnong Chu. The river was too dangerous an obstacle. If I had forced the issue, it would probably have cost me half my animals and my luggage. So I turned /320/ west and followed the Tschürnong Chu upstream. There was no longer a road. Deep ravines, one next to the other and one steeper than the other, had to be crossed and they so fatigued the yaks that the latter were on the point of dropping. At Camp 27 another of the bullocks was killed because it could not keep up. My Dungan tied its legs together, turned its head to the west so that its spirit would find Kaaba and from there-

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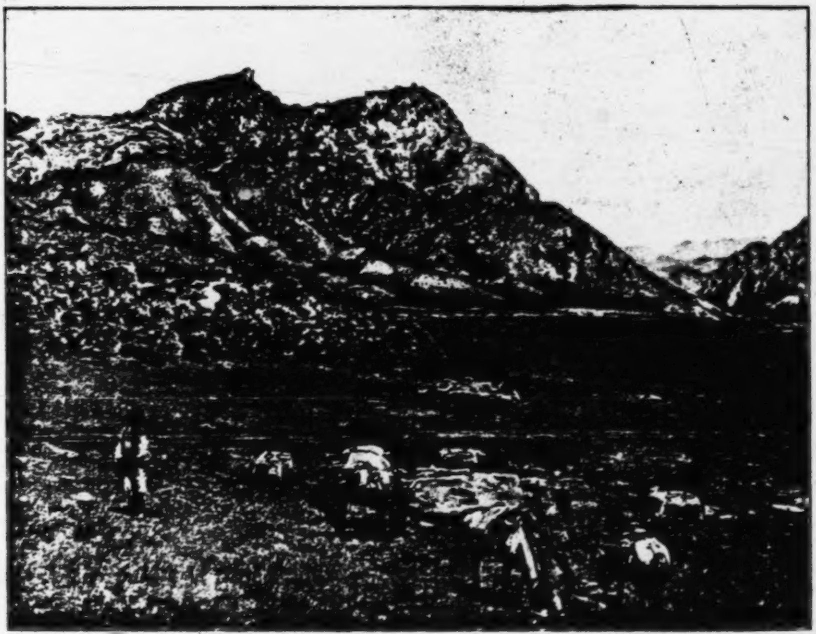
[text continues on p. 538]

5: Tafel--536 T-3 (1905-1908) 1914 AJ1 Tibet

Plate LXXIII. N.W. China AF13

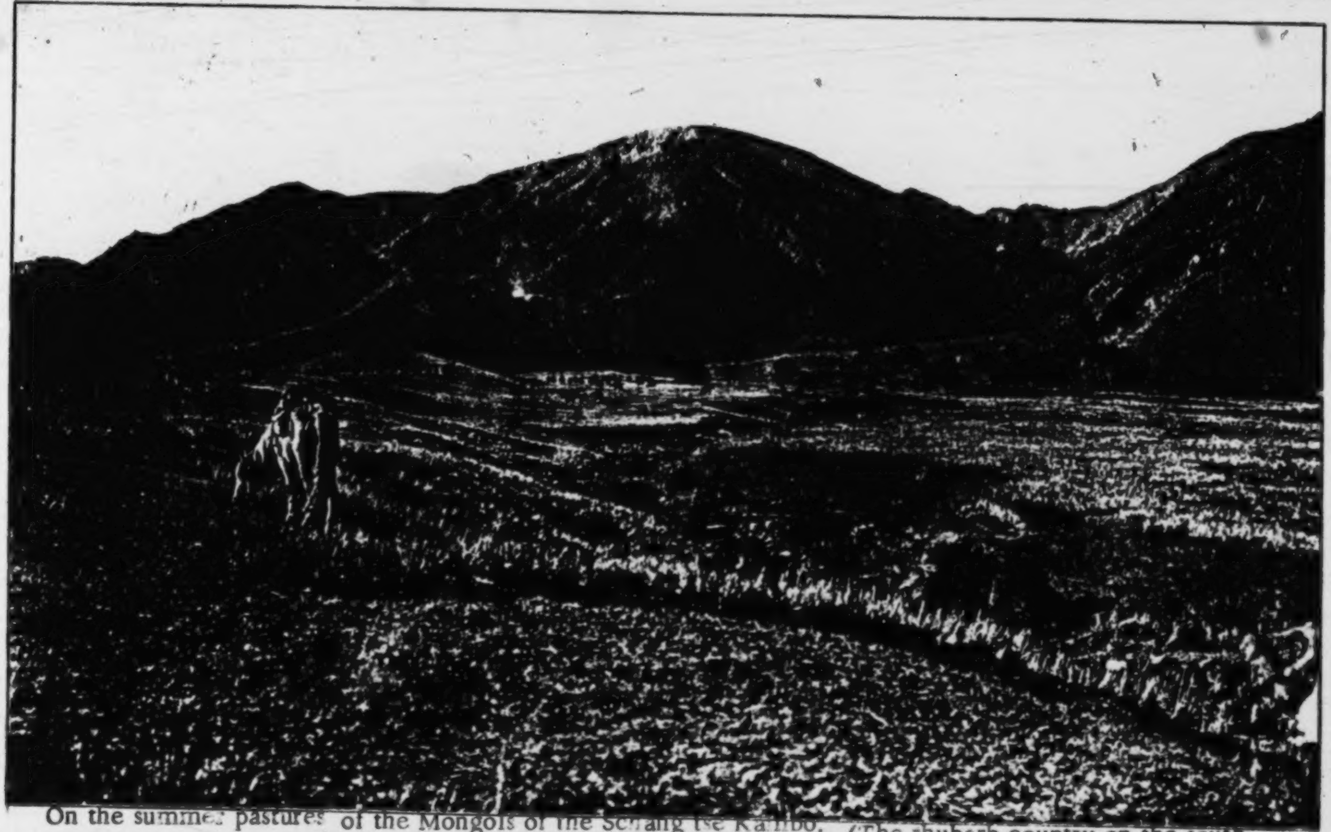
● 133



Landscape near the Rengan Tibetans in East Tsaidam. (Behind the horses an abandoned tent hearth (+), around the outside three clay chests (++) filled with Tsa ts'a.)

In the upper Tsaghan Usse Valley.

/320B/



On the summer pastures of the Mongols of the Schang tse Kambo. (The rhubarb country on the south-eastern edge of Tsaidam, see page 571.)

/320C/

5: Tafel--537 T-3 (1905-1908) 1914 AJ1 Tibet N.W.China AF13 Plate LXXIV.

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brought along. Then they began tooting up there. One of the men lifted a large sea shell to his lips and wheedled tones out of it which resembled the braying of an ox. At the same time a second and third man called the names of mountain spirits, turning in all directions as he did so, and letting scraps of wool and bits of printed paper (Tibetan: slong rschda, written: rlung rta, see Figure 18) flutter off in the breeze. It was the service which traveling akkas from the little monastery near Dankar were celebrating in honor of the day of the full moon, for it just happened to be the fifteenth of the month according to the Tibetan calendar. They were on a journey to the Wanschdäch' tseidia Tibetans from whom they were supposed to collect gifts for their monastery during the course of the summer. The Wanschdäch' tseidia had been grazing their flocks here during the winter. All the monasteries of Amdo send such emissaries as pastors to the nomads. The Gum bum monastery alone sends out many hundreds annually. The gifts which these monks bring back serve to cover the cost of running the monastery. T 792 782

As we rode on we found down in the valley the luggage of the priests who had worshipped on top of the mountain; it consisted of a small yak caravan carrying food supplies and merchandise for trade. C 133 ● 136

Our 30th camp was 3,900 meters high, but still belonged to the /323/ basin of the Tschürnong Chu. The valley formations had become broad and rounded. One could again speak of valley plains. Along with this widening of the valley, the flora and fauna changed. The ground was covered by only 5 centimeters of top soil, and there were no longer any cuckoos after the last meter-high brush. On the other hand, herds of kyang which had not been visible down in the ravines galloped across the open country, and traces of wild yaks, of Ovis poli and similar large ruminants lay bleaching along the wayside. Around numerous pools there were pompous-looking cranes and waddling ducks and geese.

On June 8 it began snowing at four in the morning and the storm lasted all day so that we did not move from the spot. The clouds hung far down into the valley. The temperature stayed around ± 0°. It was an extremely uncomfortable camp. But everyone was in good spirits because we had fresh meat. I had shot my first kyang. C 133

June 9. We decamped very early in the morning with the sky overcast. Around noon we slowly approached a pass. The very last stretch was somewhat more steep and caused us a lot of work. But the difficulties of the pass did not consist of the altitude - I measured 4,370 meters at the top - nor in the angle of elevation, but in the

133 bottomless mud that covered everything. At each step the animals sank up to their hocks into the sandy-gravelly earth that was saturated with water. There was almost no vegetation. Here and there grew a few pulvinus plants, otherwise there was nothing but bare sand and angular stone fragments.

133 487 Once again we crossed the water-shed between the Hwang Ho and Central Asia which has no natural drainage. Devout travelers had marked the place with a large heap of stones and a lab (r)tse made entirely of white quartz fragments, crowned with huge wild yak skulls. Southeast of the pass - we could reach it simply by following a small Valley - there was a large lake almost palpably near. It was the Tibetan Merduch' ts'o (1) (Khara Nor according to Roborowski). It seemed child's play to reach it on that same day, and from a distance a green shimmer promised ample food for the animals (Plate LXVII). But though to the eye the way seemed easy, it was very difficult actually to traverse. The entire descent down to the lake was a continuation of the same barren morass. Only on the narrow trails used by the kyang, the animals did not sink down to their bellies in mud. The aerial distance from the pass had measured 10 kilometers to the lake. But the caravan was obliged to make laborious detours. A few of the men were constantly occupied unloading animals that had got stuck, pulling them out and reloading them.

000 "Gung schi, gung schi! - we congratulate you, we congratulate you!" cried my men when, in the late afternoon, we encamped on solid, dry earth at Camp 31 which was, however, still far from the lake. "You have been very lucky, sir, the mountain spirits do not wish you ill, you have not lost a single animal!" We had, of course, proceeded cautiously and had always sent ahead scouts. The good mood lasted when, /324/ contrary to all expectation, we were able to brew hot tea in the camp. The sun had come out from behind thick clouds for only a few minutes but that had sufficed to prepare our fuel for us. The wild yak dung had dried astonishingly quickly as a result of the strong rays in this altitude. An added factor was the wide strip along the lake which showed a covering of grass. The water table which reached the surface farther up and on the mountain slopes, flowed underground here, even the brooks were buried in sand before they reached the lake.

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1. The Sidia Tibetans called it thus or Mergenduch' Ts'o.

On June 10 we reached the shore of the Merduch' Ts'o without further difficulty. C 133 The lake lay like a mirror before us. Half of it was still frozen. Blocks of bluish ice stood out against the dark green of the water, and around the shore were bizarre-shaped ice boulders that told of violent storms. Ice floes a foot thick had been hurled onto land at a distance of many meters, and there they formed a high wall. This must have been done by the winter storms, the summer storms do not have the power to move such tremendous masses, not even severe thunderstorms, of which we were having two a day as a rule.

I followed the shore all day long. I wanted to survey the entire west shore and travel over it, because here low hills had created varied shore formations, deep bays and peninsulas. We were finally stopped by a tiny brook on the extreme western edge of the lake, where we could not find any footing. There we encamped, close by the lake on a narrow headland which ended in a rocky hill. C [136] We had just rounded up the animals and rid them of their packs when a magnificent specimen of a Tibetan stag dashed down the rocky hill and ran straight through the midst of the herd. This was the only time throughout my whole journey that I saw such an animal.

The Merduch' Ts'o is 4,100 meters high and is about 23 square kilometers in size. To judge from the marks on the shore, its water level varies a great deal. And no wonder! There was no outlet to be seen anywhere. Nevertheless, it has perfectly fresh water, just like the Si ni Ts'o, the Gungga Nor and the Bayan Nor which also have no outflow. The nomads never seek out its shores, because the pastures are no longer good enough. T [224] On the other hand, Tibetan hunters often come here. We found quite a number of tado (tabrdo) cooking places consisting of three stones, such as travelers and hunters erect in order to make a tripod for their cooking pots.

June 11. Today I was pushed off far to the west of the course I hoped to follow. The caravan was obliged to march many hours until it could venture to cross the bottomless morass of the brook. Even so, it took us much more than an hour to go a little more than five meters. C 133 137

The mountain slopes showed an incline of no more than 5^{o}. But the rocks had dissolved to form a fine, brown, clayey earth that retained all the water. At a 2^{o} and 3^{o} gradient it was too wet for grasses, and finally even for cushions of moss; the naked earth, or rather bare mud covered the entire plain. I finally pitched Camp 33 on a low saddle, the first dry spot I could find. It was 4,315 meters high (Plate LXX). Beside it there was a thicket of mountain willow

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133 137 /325/ almost one meter high. The pussy willows had just begun to show. Blue and yellow iris on short stems peeped out of the ground. We stayed in that camp two days, two gloomy, gray, rainy days. The clouds dispersed only to make room for darker ones that discharged hail, snow and rain - often amid thunder and lightning. Only for brief moments the magnificent panorama was revealed and we saw toward the south the glistening white peak of sacred Amne Machin, and, towering 1,000 meters above thousands of snow-caps, the ice-bound surface of Tossun Nor (Mongolian), the Butter Lake, gleamed far to the west. Then it became so clear that with my Zeiss glasses I could distinctly follow a wild yak herd, about sixty head, at a distance of 11 1/2 kilometers.

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579 On our next march, Da Tschang told of one of his worst experiences in Tibet. Four years before he was traveling from Hsining fu to K'am with his Tibetan wife and three K'am Tibetans. They had passed Merduch' Ts'o and had come to the town of Sum ndu. We saw this spot, 13 kilometers southwest of our route, where three valleys open up into the large Tossun Nor Plain. The travelers had only a half dozen pack horses besides their riding horses, and so they covered about 50 kilometers a day. In Sum ndu suddenly a bullet whizzed past them. They quickly retired behind a sand dune and slipped into a hole from whence they hoped to defend themselves. Da Tschang's pack horse was carrying his entire fortune, but the defense looked hopeless. They were surrounded by 120 Sakuch' Fan tse who now closed in on them in their retreat.

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628 If possible, Tibetans avoid killing people. They are held back by fear of tribal revenge, as well as by fear of the spirit of the person killed, which seeks its former possessions. Thus, the rascals were persuaded to parley, in spite of their much greater numbers. Finally, Da Tschang and his friends were permitted to take themselves off on five, skinny old Rosinântes. The robbers kept their horses, their packs and all their good clothes. They were given only enough flour to last until they reached the Horkurma Fan tse who at that time were domiciled three travel-days south on the Hwang Ho. There they were obliged to shepherd flocks for many weeks until a caravan took them along.

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133 136 My caravan was now in the territory of Lake Tossun Nor, which the Tibetans call Dung re Ts'o ner. Herds of antilope and kyang disported themselves on the edge of the great plain that extended from my camp 2[illegible] kilometers to the Tossun Nor.

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On June 13 we battled with the mud from six in the morning until far into the afternoon. I crossed a wide valley that extends into the plain of the Tossun Nor, and then climbed over a huge moraine wall. In this way I again came to the upper course of the Tschürnong Chu. Our new camp lay on a rather steep naka field which was strewn with pools and flowers. Farther below in the valley, closer to the Tschürnong, we could see herds and tents. We, too, had been noticed down there, for a few hours after our arrival individual pairs of horsemen circled around us on the northern and western rise. We counted on communicating /326/ with the natives on the next day. But fate decreed otherwise. C 133 T 361

Today at twelve noon we had a violent thunderstorm with hail, lightning and thunder. At eight in the evening another thunderstorm passed by north of us and at half past nine we were again in the midst of one. All the elements were let loose. One flash of lightning followed another, illuminating the jagged edge of the mountains round about. Thunder rumbled literally without ceasing for half an hour. The first fine rain was followed by hail, as usual. We were hit by hailstones the size of walnuts. Howling, the dogs crawled into the tents and under the chests. The horses, raving with pain, pulled at their ropes, became entangled in their chains and fell over each other. The entire troop of yaks which were leashed together seemed to be on the point of flight. We had all we could do to prevent a stampede. While this was going on we were being lashed by the pieces of ice that rained down on us. In between, the lightning bolts sounded like rifle shots when they struck nearby. It seemed never to end. The hail was followed by hard snow, and in the end the grains lay more than half a foot deep. Suddenly - what was that? A shot? A bullet had come through my tent in which a candle burned. Then another shot and another. "Y-i-i! h-u-u-u...! hu-u-u! Yi - i!" It was pitch dark. The valley meadow resounded with countless voices. "You cowards," one of the voices called down the slope, "we'll shoot you all dead if you dare defend yourselves! Flee or croak! You Chinese curs!" - "We'll see who croaks first, dirty dogs!" my men called back. Aimlessly our shots whizzed into the darkness. Only a dozen shots were needed, and this storm also passed like a phantom. With a "Yi!" and a "Yu-u-u...!" we set out to investigate. The rascals had only dared come within 100 meters. That is as near to the camp as the stealthy traces led and there lay slow matches that had got wet. C 132 T 579

A brisk west wind helped us keep a large campfire going the rest of the night, on which the kyang meat of the day before was cooked. 000

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000 I lay beside it wrapped in fur and felt coats, and watched the sentries each of which for a period of an hour made a wide arc around the camp. Beside me the others squatted, holding their guns as I was doing, until slowly one head after another fell forward.

133 When it grew light we quickly loaded the animals and off we went the way we had come. The sacred Amne Machin with its "eighteen heads" had been beckoning to me for many days. Its unexplored glaciers and crevasses were almost irresistably drawing me on. How often the name of this mountain was invoked around my campfires! How often was a lha gsol offered up to it, or our hats removed while Tsch'eng standing upright threw the first scoop from the kettle into the air, as a libation in its honor!

On our maps Amne Machin is a long chain extending from the Tossun Nor many hundreds of kilometers toward the southeast. I discovered that the Tibetans apply this name to only the central mass which resembles Mont Blanc in our Alps. The rest of the range for which the natives have no name shows many points 5,300 - 5,500 meters high. /327/ The divine mountain looms up among them, lofty and proud, at an altitude of about 6,500 meters. (According to the Meng gu yu mu dyi, it is called Tsi sche Shan by the Chinese and is 300 lis long. In the Yüan period it was said to have been called Yirma bum ula. Among present-day Tibetans it is known as Amuni matschan musum ula, "the feared grandfather ice mountain." According to Jäschke's Tibetan-German dictionary its /Tibetan/ name is rMabya tschen hbomra, "the lord of the Yellow River.")

000 We had won in the nocturnal encounter - only one horse was missing the next morning when we counted the animals - but for a side-trip to the glaciers of the mountain, the stakes seemed too high and my caravan was too precious to me. For my important goal lay much farther to the west.

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/328/

CHAPTER X

Into Tsaidam

133 We retreated over the east end of the Tossun Nor Plain. Our battle with the morass began anew. Pure mud covered wide barren areas. Two horses grew so weak from constantly sinking in that it cost us the greatest effort to get them to the north edge of the plain where there were sand dunes and it was tolerably dry. Five yak bullocks were also

[text continues on p 549]

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unable to keep step with the caravan. On the next two days I saw 133
individual groups of riders through my field glasses. But none of them
ventured to come close to us.

Our march now continued due north where there was a large white
spot on the map on which "mighty mountain massif with perpetual
snow" stood out in bold letters. Camp 36 (Plate LXVIII), 37 and 38
nestled at the foot of precipitous limestone mountains on which I col-
lected carbon- (Culm) fossils (Phillipsia and Productus). To the west
of us lay a high valley, many kilometers wide, filled with mud. Up
on the peak of the limestone mountains, at an altitude of 4,500 meters,
I found brooding, yellow Kasarka geese. It is difficult to imagine a 136.
more uncomfortable place for this business of hatching. There was
seldom a tiny plant to be seen in a rock crevice. Wherever there was
a sheltered spot, a hollow, it was filled with snow. Why do only these
birds come out of the mild Chinese lowlands summer after summer to
breed and molt in these storm-tossed unfriendly heights? On the plain
there are also many small birds living in hollows in the ground. I saw
three or four different kinds. During the day they twitter and half sing
and even at night I could often hear them peep. They live on seeds
and insects. One of the most common birds was the Tibetan lark
(Melanocorypha maxima). Besides these we also observed kites,
eagles and vultures. All the other birds that we still saw on the
Tschürnong: cuckoos, gray doves, magpies, were left behind. As
soon as the sun appears a few butterflies flit over the low grass, but
always the same species. (1) There is an abundance of lesser fauna
but not a great variety of species. Spiders seem to be the most fre-
quently-occurring insects, especially Laufspinnen. There are also a
few species of flies and above all many wood-lice. Among beetles
there are Karaben 12 millimeters long.

During this time the weather was very changeable. At Camp 36 132
a cloudless, starry sky spread over us so that it cooled off to minus
eight degrees and thick hoar frost, a rarity in /329/ in these altitudes,
covered the ground. At Camp 37 we once again had to put in a day
of rest because we were enveloped in clouds all day and wet snow
swirled about us. At noon a shaggy, strange dog appeared at the door

[text continues on p. 551]

1. Among others, the following were collected here: Papilio machaon-ladakensis Moore; Pap. tamerlanus Oberthür; Armandia thaidina Blanch; Aporia hippia-tibetana Gr.; Mesapia peloria Hew.; Melitaea didymaturanica Stgr.

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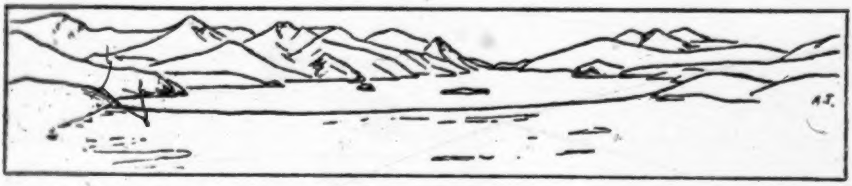

Fig. 19. Tossun Nor west of Camp 34.

000 that my Dungan next to me in the heat of the chase shot with block-light, in spite of the distance I gave him; otherwise the butchery would have been too cruel.

We hastened to get to the wounded animals as soon as we could, but even so fifteen minutes elapsed before we reached them. A mighty bull now separated himself from the herd and came rushing toward us. But before he came dangerously near he changed his mind and ran after the others. Two animals were bleeding profusely. My Dungan pounced on them. It was high time that they were killed if the meat was to be kosher for a Mohammedan; in a little while dark blood ran out of their severed throats. I myself went off in search of the third wounded animal which was trying to follow the herd. The latter had already calmed down and were heading for the entrance to the old glacier-circus, dragging along at a comfortable cattle-gait. Finally my victim comes within gun shot and I succeed in hitting it in such a way that the Mohammedans will be able to turn it toward the west and slaughter it according to their rites. As a result of my new shot the entire black herd falls over the mighty, creviced granite blocks of a gorge. A dreadful picture unfolds. Here an animal falls and kicks and struggles to get out of a crack between the boulders, yonder a calf disappears without a trace. And on top of everything, a powerful thunderstorm with thunder, lightning and sleet breaks loose with mad, Tibetan fury, booming infinitely mightier between the rock walls than my gun. The plaintive bellow of the cows looking for their calves is ghastly amid the incessant clap of thunder. I, who had caused all this misery, was reminded of Schiller's words in the mouth of the mountain spirit:

"The earth has room for all -
Why pursue my flock?"

333 I was anxious to get back to camp quickly, for I had left only seven men behind. Fortunately, I found that all was well there. My hunters did not arrive home until late at night with their meat and their trophies. Even while they had been skinning the animals, they were encircled by vultures and wolves.

●133 Not too far from this camp, the brook which we had followed here from the southeast breaks through the chain of rocks on the left and makes a narrow gorge. A not too long march downstream brought me to hot springs which I had been looking for for a long time. Rockhill had discovered them in the year 1892. (1) Therewith I

1. Rockhill, Diary, p. 129.

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● 133 was again on familiar ground. I knew now that I was standing beside the Tsaghan usse River and only had to follow its course in order to reach my next goal, Tsaidam. For the present, however, the miserable condition of my animals demanded several days of rest. I pitched Camp 44 close to the springs. We had now come down to 4,000 meters again, and excellent grass offered nourishment for the poor yaks and horses. The not very powerful but very hot springs gush forth on either side of the brook which suddenly cuts C 133 T 529 sharply into the valley floor and forms cascades. The silicate- and limestone-sinter formations of the springs have firmly cemented the otherwise loose, coarse rubble masses and afforded the brook only a narrow passage. They have also created caves and basin-like structures, true thermal spring baths. Round about on the pastures, large old cooking hearths and other remains showed that at times nomads T [788] with their families and herds came up here for weeks at a time. Prayer pennants, tufts of wool and jaw-bones of sheep, decorated with Tibetan prayer symbols, as well as small heaps of quartz fragments clearly showed that the springs had been very beneficial to the people who had visited them and that the little spot was regarded as sacred, a place prepared by beneficent mountain spirits for the welfare of mankind. Human beings had, however, done little to improve the baths. A neck-breaking path led down to the springs. One was obliged to stoop over and pass a grotto which gave off a strong odor of sulfur, in order to get to a natural tub which was the only possible place to bathe. Most of the water which gushes out of the ground at a temperature of $+87.7^{\circ}$, immediately flows into a mountain stream which, at the time of my visit, had a temperature of $+4^{\circ}$. But that one basin that was as large as an ordinary bathtub made it possible to bring the temperature of the hot water to any desired degree. All one had to do was stop up the small channel which fed it with a little loam. In a short time the hot water was cooled by the cold air of Tibet (Plate LXXI).

000 The effect which the natural bath had on the different types of men of my caravan was very characteristic. The Fan tse Me from Kue de examined the opportunity and made off, muttering prayers. He was not ill, therefore he did not need the water. The Mohammedans H'an and the two Ma went to the hottest places and rubbed their foreheads, hands and feet clean, reciting prayers. My Chinese washed the upper part of their bodies. Only Da Tschang - the only one of my men, incidentally, who could read - imitated me and took a full bath. I, the European, had to make up for the

5: Tafel--561 T-3 (1905-1908) 1914 AJ1 Tibet

Plate LXXVII. N.W. China AF13

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Mouth of the Wulasetu. (The border mountains of Tsaidam in the Barun territory are completely bare. There are a few plants only along the edges of the brooks.)

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Woulded kyang on the southern edge of Tsaidam. (In the background the border range of Burkhan Buda, in front of it Piedmont gravel.)

/336B/

Mani rDyayu near the yurts of the Four Mongols, and border range of the Burkhan Buda Mountains.
(Taken 10 kilometers from the foot of the mountains.)

Border chain of the Burkhan Buda Mountains near the Yoghore Valley.

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5: Tafel--562 T-3 (1905-1908) 1914 AJ1 Tibet Plate LXXVIII

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they lose one district after another in their part of Tibet, and that 631
their officials cheerfully return from the interior after a defeat, as did the Dankar ting, for example, in 1905 when he came from the Ngolok country, or that they allow the murder of a Ts'ai by the Tibetans to go unavenged and unpunished. Thus, even the Mongol banner leaders who are much less war-like than the Tibetans permit themselves all kinds of tyrannies.

My Camp 51 beside the tent village of the Schang Mongols was 133
again in a beautiful spot (Plate LXXIV and LXXIII). There toward the north the rocky crags become gradually lower and the mountains descend to the sands of the Tsaidam border, so that one was able to see a distance of about 100 kilometers to the north. In the south there is a sharp ascent up to more than 4,000 meters and the peaks there are snow-capped. But on the lower part of all the northwesterly, northerly and northeasterly slopes, the mountains are covered with small stands of mountain cedars, forming glades of old, gnarled trunks. The fresh green pastures that extend down from the edge of 231
the woods were alive with countless white dots - sheep and goat herds. There were black masses in between comprising the yak cattle, and dappled masses consisting of horses and camels. Horses are insatiable; they graze from morning till night. Cattle are more quickly satisfied. Ploughing up the earth with their horns, wildly snorting, grunting, their bushy tails held high, the yaks disport themselves on the pastures. It is a good thing that the Mongols and Tibetans have the custom of letting only the hornless males go uncastrated and of using them for breeding steers. But even these are not as wild as ours. It is peculiar that hornless animals occur very frequently among domestic yaks. When they do have horns these are not bent in all kinds of ways like those of the European and Chinese colored cattle, but are always regular and shaped like those of the wild yak. In fact, the build of the tame yaks is exactly like that of the wild ones, except that they are smaller and have a weaker bone structure. (1)

The Mongol women here wear their hair like the Tibetans. They 563
part it in the middle and twist it with butter into countless tiny braids 302
which are joined and hang down the back. They also wear a separate braid that starts at the crown of the head, and from which a piece of red cloth ribbon a few centimeters wide extends down the back. This

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1. I never once saw a white spot on the wild yak. Their tail is also completely black.

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278 fourteen taels were paid in 1894 for 100 catties. At the beginning 437 of this century the price in Dankar dropped to 8 to 9 taels. The rhubarb from Kue de brings 1 to 2 taels less because its rhizomes are blacker and are therefore considered less efficacious.

324 The Mongols and Tibetans use this rhubarb only for dyes, not for 386 medicinal purposes. On the other hand, they use the stems of 262 another kind which the Mohammedans call sche hoang, that is, stone-rhubarb, with leaves that are only slightly slit, as a vegetable.

On July 10 I left the Schang yurts. I had set Barun-Tsaidam as 000 my next goal, in order to supplement my supply of flour, which I had not succeeded in doing in Schang. In Barun there is supposed to be more barley than in Schang.

We had some difficulty in getting started. The small animals had not got used to each other. The 37 head which I bought always tried to stray apart and head for any larger herd. It was a mystery to me how my men with unfailing accuracy always extricated my animals from a flock of many hundreds of sheep and goats. But the Chinese are good at things like that. It always amuses me to recall an example illustrative of this distinguishing trait. It happened at an inn in the lowlands. A guest and, of course, a grass widower had just returned home from market carrying his supper consisting of meat, eggs and flour, and the necessary fuel for it under his arm. He threw the bundle of twigs down in front of the door of his room. While he was in the room in order to fetch his cooking pot and pan, a policeman who was keeping the all-too troublesome gapers away from me, hoping to earn a good tip, got himself a stick from the bundle of faggots of my neighbor and paraded up and down with it at some distance in front of the gate of the inn. The grass widower returned. He took up his bundle and immediately discovered the damage. A mere glance, and he recognized his property in the hands of the policeman. Now, there was a second policeman with a similar stick in his hand, standing at the gate, but the injured man had immediately picked out the right one and also got back what belonged to him. The lies and excuses of the policeman were powerless against his plausible arguments. He was able to give a minute description of his firewood.

We traveled over low hills and a small saddle: at the end of our ●133 day's march we crossed over the Yogh'ore gol, the outlet of the Tossun Nor and the Alang Nor. The Yogh'ore Valley is wide and flat-bottomed, the river is /344/ divided into several branches and was now, at the time of the monsoon rains, rather deep. I had

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rented four camels for the crossing. On their high stilt legs they brought the bags of flour dry to the opposite shore, whereas the water ran over the backs of the bullocks. c 133

We camped on the left side of the river at an altitude of 3,170 meters, in other words, not much higher than the large Tsaidam Plain. Because of this, we were almost eaten up by millions of mosquitoes. To the north of us the Yohg'ore Valley soon passed over into the Tsaidam Plain. In the distance we saw the groups of houses comprising Schang rdi kura. On account of the mosquito-pest which was very painful for the animals - we were unable to let the horses graze freely even for a minute because they would immediately attempt to gallop off - I left the Yogh'ore Valley without visiting the houses of the Schang rdi with my caravan. On the following days I traveled over foothills and over several passes of 3,700-4,000 meters into the Barun territory (Plate LXXVIII). I was constantly running into individual Mongol settlements, yurts and flocks. Through some valleys I traveled as fast as I could. I suddenly learned that I had chanced on regions where there was a cattle epidemic. Now, some of my animals had allegedly had the disease, and I had bought them in regions where the pest had just raged very severely; yaks who have survived the disease are called tarma in Tibetan. Nevertheless, I was very much concerned for my herd. C 136 C 563 232

On July 12 we crossed the Ara Usse gol. Da Tschang and I were far ahead of the caravan and we reached this valley early. I was very hospitably received and entertained there by a Tibetan mamba, by a colleague of the science of medicine. The mamba with his wrinkled spouse, a Mongol woman, lived in a Tibetan black yak-hair tent which, inside, was furnished in Mongolian style. It had a two-winged entrance door and instead of the takoa, the walled and well-burning hearth of the Tibetans which always divides their tents in half, it had, Mongolian fashion, a cooking pot on a round, iron tripod about a foot high in the middle of the tent. In the rear of the tent there were a few chests on which stood a few dozen brass bowls containing holy water. The gentleman had evidently carefully packed away his gods before he invited us to step inside. From the ceiling hung countless small cloth pouches, blackened with soot, in which he kept his medicines, roots and seeds. He pulled down a little bag from the driest corner and showed me its contents. It revealed nitrate of potash which was supposed to come from the Lop region, and which he used to prepare gun powder. We talked about the weather and about cattle epidemics. The Ngolok and K'am T 756 342

5: Tafel--577 T-3 (1905-1908) 1914 AJ1 Tibet AJ 1
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Tibetans are said to have a good remedy for the latter. They are said to induce a sort of protective disease in their animals so that their animals do not contract the diseases as often or as severely. They kill young, sick animals when they are in the recuperative stage and feed their meat and blood to well animals. After this the latter are said to be sick for almost a week and eat nothing, but afterward they are immune, the mamba said. This "medicine" is largely bought from the Ngolok by the Koko Nor Tibetans and Mongols. But by the time it reaches the north it is usually spoiled and then it is reportedly not very efficacious. /345/

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On July 14 we reached Ikhe gol. Here, at 3,185 meters, we came upon barley fields which the Barun Mongols had planted. I had also seen some in the lower Yogh'ore Valley. They were capable of being irrigated but looked extremely poor. I never again saw such uncared-for fields. The Mongols maintain that they are able to cultivate the same field only every six years. Then only do they plow their fields and sow thinly between the huge clods of earth, without harrowing or fertilizing. The weeds which grow up during the long period when the fields lie fallow are almost never removed, so that it was difficult for me to distinguish between cultivated and uncultivated acres. The Ts'aidam Mongols are surely the laziest farmers in the world. For this reason they are obliged to get the largest part of their barley supply in Dankar.

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● 133
From our camp along the Ikhe Gol we soon came out of the mountains. But we were obliged to march from morning till night in order to find a new pasture for our animals. The way led over a desert of stones, over the Piedmont gravel, the schala (Mongolian) of the Tsaidam Basin. The edge of the mountains, from which the Tibetan highland descends into the Tsaidam Plain, runs west-northwest to east-southeast. The declivity consists of completely barren, savagely cut-up crests which, toward the north, sink into the yellowish, weather-beaten dust and gravel of the schala. The latter is only very sparsely covered with desert plants, with tamarisks and other low shrubs. The bullocks reluctantly and very laboriously stamped over the sharp-edged stones of the ground. (Plate LXXVII). The farther west I came, the drier became the character of the landscape, and the more signs of vegetation disappeared. With every step it became more like a desert. For a long time now there had been no more small woods in the border-mountains, and the grass patches also dwindled noticeably.

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entire body of the yak cattle is covered with a thick mat of hair which, on the belly, becomes a foot long and changes to rather stiff hairs. The wool as well as the bristles are always pitch-black in wild yaks and usually so in domestic ones. But after the hairs have been plucked out and exposed to the weather and to moisture, they quickly turn a reddish-brown and then resemble old mammoth-hairs such as one finds in the ice of Siberia; the mammoths were undoubtedly all raven-black at one time like the wild yaks.

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After a few days of rest three of us, Han, Tsch'eng and I rode toward Barun kurä with only mules and horses. We again traveled down the stony and pathless Wulasetü Valley and then, as a result of a misunderstanding, set out from the mouth of the valley in a north-northwest direction into the plain. Thus it happened that when we again met human beings we were in Dsun, that is, in the territory of the banner-dsassak of Dsun which was west of Barun. Behind a 10 kilometer-wide, barren belt of rubble known as the schala, which embraces the foot of the mountain, there is a zone of dunes scarcely one kilometer wide following the southern border of Tsaidam; then there is a more or less wooded zone consisting of tamarisk, and finally, beyond this, the pasture land, the zone where /348/ the water that flows down from the mountains and is absorbed by the schála, gushes out again, irrigating and making the ground fertile once more before it loses itself in sterile salt swamps toward the middle of the Tsaidam basin.

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Here in Dsun I again tried to add to my herd of sheep, but no one had the courage to do business with me. It is the custom in all five dominions of the Tsaidam Mongols that the rulers have a sort of business monopoly in their territory. Their subjects may carry on business with a stranger only when the ruler has covered his needs or if he expressly permits it. Dyoba Dyentsen, too, first had to get permission from the dsassak to sell me his animals.

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Because the dsassak of Dsun lived too far off my route, I myself did not visit him. He is said to live on a walled estate in the middle of his country. His domain is about 40 kilometers long and 5 kilometers wide and consists of fertile pasture land. Belonging to it is also an area of wasteland extending over many days' marches. The Dsun (140 families with one squadron) graze their herds only in the plains, in the narrow zone between the dunes on the edge of the Piedmont gravel and the salt swamps north of this.

6: Tafel--1 T-3 (1905-1908) 1914 AJ1 Tibet
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CHAPTER XI

Into High Tibet

000 The pleasant days of freedom on the pastures of the Barun Mongols passed all too quickly for the tired animals of my caravan. I was sorry to have to load them down again with their heavy burdens. The thirty-first of July passed with last-minute preparations and with a roll-call of the oxen. I found myself obliged to eliminate five yoke of oxen which had not recovered sufficiently. Two of my men also had to be released to go to Hsining, whither they were able to travel with a few Mongols. I was worried whether one of them would ever see his home again. He had suffered from a lung infection since the time of our damp encampment in the Wahong Mountains. /Fig. 1./

In order to rouse the most indolent of my servants I gave those who presented the least chafed-looking animals a small tip of two taels. (The animals of my Mohammedans looked in surprisingly good shape.) This idea of mine was all too European; the rest of that day and for many weeks thereafter it caused quarrels and fights among my men. Those who had been left empty-handed said it was unjust, that it was not their fault exactly that their charges were chafed, that they had probably been especially sinful people whose souls had been punished by being "changed" into beasts of burden, and given the additional penalty of being chafed and of having to undertake such a long and difficult journey as mine was. In arguing with a Chinese one always gets the worst of it. In the end I had to interfere in all seriousness and separate the two wrestling parties. Just in case lao si ye (the old gentleman, - meaning me) should ever be crazy enough to hand out rewards again, each one was going to make sure of getting the best animals. For my part, I vowed to let this experience suffice.

• 133 Scarcely had I set out with my caravan on August 1 when I met my Mongol friend, Dyoba Dyentsen. He offered to be my guide on the first day, and he brought me to a delightful pasture in the nearest parallel valley lying somewhat to the west, /2/ that of the Türketse gol. He himself had settled down for the month of August near this new camp of mine, and far away from other tents. The mountain pastures in this extreme western part of the Barun Mountains are very sparse. The farther west one travels the greater the inroads made by the grassless desert belt of the salt swamps of Tsaidam into the mountain range bordering on the plateau. The swamps are without drainage. The situation is such that the Dsun-Mongols who live farther west have no mountain pastures at all and are entirely dependent on their reed pastures full of salt in the Tsaidam plain. Even in the Türketse Valley the Barun Mongols can live only a few weeks during the year, and only in scattered places. They are therefore practically defenseless against razzias of even small divisions of Ngolok who, on a hunting excursion, may choose a souvenir from the herds of the Mongols. It certainly requires courage and a degree of fatalism almost unknown to us Europeans, for these people to continue to settle down there in spite of this always threatening danger of being so easily robbed of their herds.

Dyoba reported that he convinced himself the day before on the Alang Nor that there were no Tibetans hunting there. I could be reassured. However, he also showed me a place farther up the valley where an observation post set up by my men could see any approaching robber bands, in plenty of time. After that he dragged me, willy nilly, to a hermit. He said he thought that before such a difficult undertaking one ought to have one's fortune told by a holy man.

An hour's steep ascent over rought granite blocks brought Dyoba Dyentsen and me, along with Tschang, to the holy man. He lived high in the mountains under a ledge of rock which offered only the scantiest protection. We approached the lama, bearing a khádar, and with butter and flour, according to the custom of the country. Dyoba introduced me with Mongolian ceremoniousness and in the most flowery style, and explained the purpose of our visit. The holy man who was about 70 years old and had long, wild and unkempt hair and weather-worn features, did not seem to be aware of us at first. In an absent-minded fashion he counted off innumerable "Om mani padme hung" on his well-worn rosary. When he had gone around once and prayed off the 108 little stone pellets, he sometimes fingered one of the other appendages on his rosary, a broad pincette, and with it he busily plucked out a few sprouting whiskers. The visible furnishings of his rock dwelling consisted of a small iron cooking pot, a water pitcher of yak leather, a leather bag for tsamba flour, a chest filled with butter, a small drum made of the upper portion of two human skulls, a trumpet made from a human tibia, Tibetan prayer books which were wrapped in a silk cloth that was covered with a thick layer of grease. Wherever I looked, on pieces of stone, on rock ledges, on cloth pennants fluttering in the wind, Tibetan maxims stared at me. This barefooted, bareheaded and half naked old man with his brown beardless face furrowed with wrinkles and his priest's toga which was once purple but was now dirty and ragged, presented a moving picture in

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exception and give milk even without a calf. It is undoubtedly also a mere superstition that the calves of hybrid yaks are good for nothing. These animals (called schdur in Tibetan) are to be found fully grown, although it is very rare; but they seem to be vigorous and among Filchner's herd there was one that rendered us useful services. Although I found it fit, I was ridiculed at the time for letting it be palmed off on me. /7/ The colorful cattle that are found among the Mongols and Mohammedans are also, according to their owners, not supposed to lose their calves if they are to continue to give milk. Tibetans as well as Mohammedans say that veal does not taste good. The meat of the slaughtered p'ien nu (schdur) calves is thrown away and never eaten. It is well known that Chinese are horrified at the thought of eating beef. Even in Hsining fu where Chinese customs are to a great extent mixed with Tibetan and Mohammedan ones, there are a great many Chinese who consider it a mortal sin to eat beef and who refuse to drink milk. Among Chinese on the Tibetan border as well, the general opinion is: niu she fo, the cow is a Buddha. It is also considered a sin to use it for riding; humans should only use it to plough. However, the Tibetan generally spares his horse and rides on his yak, and particularly his p'ien niu (Tibetan: ntso) (Plate LIX of Vol. I).

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On the third of August when the packs had been tied up we were greeted by a beautifully clear morning. This weather prevailed almost all the time of my stay in the Barun-Tsaidam territory. Amid jolly song we went farther up the valley of Turketse gol. Soon after we left our camp the valley's big caravan road that I had heard of became a narrow hardly discernible path that looked more like a kyang route than a bridle path. Only on a terrace of rolling stones leading to a brook where we had to dismount, were there distinct traces of the animals of previous caravans. We went due south, and toward the end the path was very steep. Vegetation was more and more sparse. In spite of the precipitous slope the soil higher up was a barren mass of sand and mire, interspersed with huge piles of rubble and slabs of rock. My little black cluster moved unbelievably slowly toward the pass. The yaks panted heavily. One after another of the animals sank helpless and motionless into the almost bottomless mire. It was no small task to keep unloading the 30-40 kilogram packs, extricate the animals and tie the packs on again.

At the pass which was only 4,815 meters high there was, unfortunately, one snow cloud chased by another and this prevented me from climbing a peak that was about a thousand meters higher than the

133 pass. There were only a few brief, clear moments when the hard, stinging kernels of snow permitted our watering eyes to catch a glimpse of the wild landscape of the pass. At such moments the chaos of partially crumbled slabs and heaps of rock covering an ancient, tremendous glacier circle that had its mouth towards the north, was all the more imposing.

Nowhere in this Burkh' an Buda mountain range did I see areas of eternal snows. Although there is more precipitation here than down below in the Tsaidam basin, it cannot withstand the drying power of the sun.

The peaks around the Türketse pass are almost buried in mounds of slab and rubble and this illustrates the earlier, gradual recession of the glacier in this entire region.

821 "Haya! ien tshi da de ch'en ā!" "Alas! how very big is the ien tschi!" sighed the Chinese when they finally reached the top and sank down completely exhausted from the great exertion caused by the mire and the rarefied atmosphere. /8/ The idea that a particular type of gas, ien tschi, is very "big" on the heights of Tibet, and that this causes difficulty in breathing in the mountains, is widespread. 132 We were also quite painfully affected by the sudden low temperature (at noon it was still around the freezing point) together with the west wind that howled around our ears, especially after the warm July days in the lowlands. I was scarcely able to steady the metal eclimeter, and only shaky marks appeared on the damp, cold surface of the paper.

133 From the 4,815 meter Türketse pass the descent is very gradual toward the south. The entire southern slope of the great Tsaidam border range is buried under huge moraines. We Europeans call this mountain range by the collective term Burkh' an Buda; however, the natives, the Mongols, use this name for only one of the more prominent peaks that is to be found somewhat to the west of my route.

We were all happy that the notorious ascent into the Tibetan highland had been accomplished without losses, and there seemed to be no further difficulties in the way of leading the over-exerted animals to succulent pastures on that same day; for in the distance we saw the most inviting-looking green spots in the region of the Alang Nor. However, my four-footed friends were not to partake of a green meal on that day, although from that vantage point travel in Tibet looks so simple not only at home but often on the road itself. We found ourselves on a flat part of a southern slope, on rubble imbedded in sand that was completely soaked with the water of the summer rainy season. There was absolutely no plant covering or roots which might

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have helped the poor hoofed animals to get over the terrain. Of the 50 oxen often more than half were stuck up to their bellies in the swamp, until their drivers unloaded them and pulled them out. Hours went by and we had not progressed one kilometer. My herd lay scattered about over a large area, just as on the Tsassora and the Merduch'ts'o. Here an animal gave up exhausted from the struggle, and only rolled its eyes; and yonder another attempted to wrench itself free with its last bit of strength, like a house fly on glued paper. It was positively miraculous that finally all of them ploughed their way through. Finally, breathing rapidly, man and beast lay down on the partially dried off bit of land on the banks of a small brook that served as drainage. Only the sheep did not want to stay here where there were only a few pulvinate plants, but no tidbits. They had managed to get over all obstacles with agility, and had caused me who was to look out for them because the rest of the men were busy with the caravan, moments of palpitation when I saw them lightfooted as they were, race after each ranunculus, campanula or edelweiss on the sides of the rocky crags that loomed round about. They almost escaped into a gorge without leaving a trace. (1)

1. A large part of the Tibetan highland that I saw is made up of soft swampy sections, rubble consisting of quartz fragments, crumbled sandstone and sand, all saturated with moisture, and interspersed with single large rock fragments of the substratum. At 4,000-5,000 meter heights the surface thaws during the summer months. Not only the large valleys with their /9/ rubble, but even more the southern slope of the pass and the bottom of mountain slopes are so filled with moisture that the pack animals sink in with every step. At the Türketse pass we found "flowing soil." The surface of the loose rubble embankments was seamed with fissures and mounds and gradually slipping, because it was soaked through and yielded to gravity, and deep down probably rested on ice or at least on ground that has been frozen for countless ages. However, this shifting of the surface is not only to be found in High Tibet on barren spots as at the Türketse pass. I often saw the thin grass covering of an entire slope with its dense matting of roots slide down in one piece as a result of the saturation of the substratum with water, and form horizontal streaks of folds and

• 133 excrescences a half meter high and up to 100 meters long. The plant covering that had slid off resembled a layer of snow that slides off a smooth slate roof and forms folds in the process (see illustration 2).

000 /9/ August 4. During the past night we had more difficulty with the sheep. When shortly after sun-down a couple of wolves were heard near the tent, the frightened animals tore their ropes and crazily ran off. It was long after midnight before four of my men succeeded in catching them and bringing them back. This delayed our start in the morning. Fortunately the brook farther down had already washed out a sort of valley in the rubble mass and the poor animals who had moved close together shivering in the icy cold night, were no longer strained beyond endurance. We had not gone far that morning when my dogs succeeded in catching a young kyang. It was an adorable little animal, scarcely more than a month old, that went along with one of my horses, led by the bridle without giving any trouble. Since it had not been wounded by the dogs, I meant to try to raise it on the milk of my yak cow. From the very beginning it was not only my darling but that of everyone. Only the milch cow could not bear the long-legged, kicking red creature that walked about freely in the camp (Plate II) and bumped into all the cooking pots and the people. She refused to let it come near her. However, in my medicine chest I found a glass and a rubber hose from which a bottle was made and on that day as well as the following ones I devoted a great deal of time trying to make the foal drink. It was a thankless business. For if the milk did not flow the little animal turned quickly around and began kicking me with its hind legs. /Fig. 2. Cross-section of a thin plant layer sliding down a slope. /

Today we traveled 25 kilometers and set up camp when a snow storm of several hours' duration cut off visibility. We had not reached the Alang Nor. It had been a bleak trip along the valley of the little brook, down the moraine wall that looked like a thick protuberance in the southern section of the border chain. In our new encampment we were protected to a certain extent by flat rubble mounds. It was better not to be unnecessarily conspicuous with my small following on the broad, open steppes along the lake, otherwise impromptu robbers might become aware of me. The Tibetan highland atmosphere is uncannily clear /10/ especially after a snow squall. As before strict orders were given to extinguish all campfires when darkness approached.

133 On August 5 we crossed the broad steppe valley just to the west of

6: Tafel--13 T-3 (1905-1908) 1914 AJ1 Tibet

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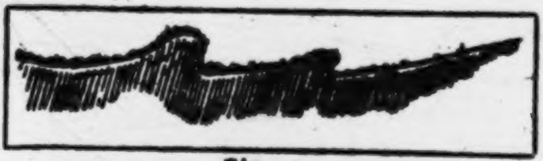

Fig. a.

Cross-section of a thin plant layer sliding down a slope.

the Alang Nor, (Alak Nor). (Plate I). There were lush meadows 133 along the lake shore. Otherwise there were alternate swampy places, spots with grass that grew 10-15 centimeters high, and sections of gravelly rubble. Sand dunes had formed around a small hillock of rock in the middle of the valley, and their thin covering of grass gave off a faint green shimmer. However, not the smallest shrub was to 136 be seen. The steppe seemed dead. But how quickly it came to life not far away with antilopes, kyang, wild yak, wolves, foxes, marmots and bears when I took up my Zeiss field glasses! Several times one of my men came galloping excitedly up to me and pointed to a moving dot in the distance. Fortunately, however, the supposed Tibetan turned out to be a harmless bear or kyang. There were also huge herds of wild yaks on the plains, and they could be seen many kilometers off in their black pelts. They were proof enough that for some time there had been no one in the valley. Incidentally, these wild yaks are by no means altogether harmless. Although I took every precaution in our new camp and always kept two men on guard, nevertheless that afternoon a yak bull suddenly stood in the midst of my grazing cattle. The black giant seemed to be larger than life next to my tame animals, and he glared haughtily and rather surprised at the inferior creatures. I hesitated a moment, undecided whether to reach for my camera or for my rifle. My watchmen had fled when the monster had come racing up grunting and shaking his huge and bushy black tail. However, before I stepped out of my tent with my camera and gun a tragedy had happened. In a blind rage the bull had rammed his pointed horns into one of my animals, through the pillion, and tossed it into the air. The monster trudged off when he heard the shouts of distress coming from my men, and was pursued by the bullets of my watchmen who had recovered their courage. However, one of the best yak oxen lay dead on the ground.

After I lost the greater part of my equipment and with it my Euro- 221 pean tent in the attack on the Koko Nor I had had to make shift with a thin Chinese tent. This always caused great difficulty when I had to change my photographic plates. Even with the thinnest crescent of the moon in the sky it was not dark even under my blanket. On the night of August 5 there was a full moon and therefore no prospect of sufficient darkness throughout the night. I was therefore not a little happy when a bank of clouds in the east brought absolute darkness into the interior of my tent. I quickly decided to change plates, but while I was in the midst of doing this I was interrupted by a strange occurrence. My companions outside suddenly made a most frightful racket. Their shots and yells sounded as though robbers were outside the camp; 821 they beat on lids and cooking pots like mad, in fact, on anything that makes a noise. The sharp whistling of shots pierced the shouting. At any moment I expected bullets to fly through my tent, as they did that time at Amne Maschin. As quickly as possible I /11/ packed away my plates and dashed out of the tent, cocked a Mauser pistol in each hand. The noise did not cease. Those of my men who were not shooting were swinging their swords which gleamed in the magic light of the camp fire. Threateningly one of them brandished his long lance. H'an and Tsch'eng dash up to me: "The monster, the voracious frog of heaven (1) has appeared in the sky!" ---

1. Called arha by the Tsaidam Mongols; it is the Ra hu of Indian mythology. The monster is also often addressed as wolf.

It was an eclipse of the moon. The cloud bank had disappeared and the full moon stood in a clear sky, but only a fast-disappearing part of its orb was bright, the greater part of it lay in the shadow of the earth. That was why it was so nice and dark in my tent! When the occultation grew less an altar was erected, incense was burned and they all fell on their knees and made a kowtow to the beloved and happily rescued celestial body.

In the southern part of the Alang Nor plain (2) there was a steep 133 ascent. It was necessary for us to reach a plateau that rose up in terrace formations. Many erratic granite and lime blocks a cubic meter in size towered out of the red disintegrated sand masses. They not only enabled me to make deductions concerning the history of the terrace, but also made me fear a renewed, difficult struggle with bottomless moraine mire.

We were still at the bottom of the slope when I inadvertantly came 136 upon a huge herd of wild yak. I counted 1,200 animals. They were outlined against the autumnal green of the meager pasture in the shape of a black, roundish mass. As usual the animals had drawn close together during the night. Huge amounts of droppings that covered a whole hillside and were recognizable at a distance of one kilometer betrayed their resting place for the night. At seven in the morning they were scattered over a wide area grazing, and a space of several

2. It is also often pronounced Alak Nor.

square kilometers looked as though it had been spattered with large /136 black ink-blots. However, because of the almost total absence of grass, I sought in vain to capture with my camera this magnificent picture of primeval ages, showing not man but wild cattle to be masters of the land. When they caught sight of me the nearest young bulls came toward me and threatened me, lowering and shaking their mighty heads as though they wanted to demonstrate: see! we'll lower our horns and then toss you merrily into the air.

The highland at the Alang Nor is, to be sure, uninhabited, but the yaks are so often disturbed by hunters that many of them recognize the dangers threatening them at the hands of humans. When some of the more experienced animals became aware of me as I crept up, the mass of them drew closer together, appearing blacker all the time. The old lead bull had also got wind of me and set out at a gallop leading the others. Like a huge, woolly, coal-black army worm, he seemed to be wending his way slowly up the slope. Soon, however, only the sound of a peculiar roaring and of falling stones caused by thousands of stamping hoofs came down to me from the distance. I only got the rear of the train on my plate; ~~and with it an~~ old jealous /12/ bull (Plate II). For a long time this old gentleman kept wagging his huge black tail at me in a challenging way. The tail was big enough to have made a handsome parade plume for three Prussian officers of the guard. However, finally even he did not quite trust the situation, and in a waddling trot he followed the herd of his more fortunate competitor, keeping a respectful distance of several hundred meters. The sandy mire caused the heavy animals much delay. Before they reached the height they had fallen into step again. In the melee many of the cows had lost track of their calves, and the latter followed behind in droves. My Tibetan servant Tschaschi killed one with his matchlock; for my utilitarian apostles informed me that killing the calves of wild yak is no sin.

When I myself reached the top of the "Sang-plateau" the yak went slowly off in three groups, each led by an old bull, toward the pastures on the northern foot of the next rocky mountain where we were able to observe them for another whole day.

Following the wild yak I had crossed the water shed between the Hwang Ho and the waters that hurry on toward the Tsaidam basin. /33 This was in the area of shifting masses. A few bare peaks that look like new steps rise up all around this peculiar plateau whose name Dyoba said was "Sang." (1) To the eye these rocky peaks look like

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1. Probably meaning Tschang tang, the northern plain of the

great barren steppes of northern Tibet.

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hills, and yet they reach a height of over 5,000 meters. Between the mountains there are undulating plains many kilometers wide. Countless small round pools without visible outlets are found all over. (Plate IV)

Nevertheless, although the terrain looked simple, our march to the south proved very time-consuming. It was impossible to take the heavily-burdened yak directly across the plain. The middle of the plain was a bottomless mire and I could only take detours along the foot of the mountains, and they required many additional hours. If occasionally we had to cross a valley, hours were spent looking for a half-way passable spot and in unpacking and re-loading the animals which had sunk deep into the soft ground. After even a short stretch of this, man and beast lie exhausted on the ground, struggling for breath.

On this wide plateau I saw Orongo-antilopes (2) for the first time. /36

2. Pantholops Hodgsoni Abel. My companions called these animals by the Tibetan name of tso (gtsod) and the Chinese name ling yang. The Mongols call it orongo. I found these animals only on undulating plains 4,000 meters high. The swampy plateaus near the Sing su h'ai are the eastern boundaries of their territory and from there it reaches far to the west over the entire northern part of Tibet. Wherever I found orongo-antilopes in northern Tibet, there were always great numbers of them. Their sharp eastern boundary seems all the more surprising, but this fact is also known to the Tibetans. As true inhabitants of Tschang tang /plateau/, the orongo-antilopes are not very timid; one can easily approach them at 100-150 meters. If the animals feel disturbed they cautiously retire to the middle of the plain. In sharp contrast to the small, very timid dsere-antilopes (gazella picticaudate Hodgson) who in flight /13/ first leap into the air, pulling in all fours and then dash off over cliffs and rocks into the mountains, the movement of the orongo may almost be called clumsy, to which their somewhat heavy body and thick neck contribute. When the orongo travels fast it amounts to a quick trot which, however, is not so easily imitated by any other animal.

rdya nagbo sdyenba dar
sog serbo sdyenba niam.

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The offering of the black-clad Chinese rose up,
The offering of the yellow-clad Mongols was forced down."

The last remark referred to the conquest of Tibet by the Manchu dynasty. In 1724 under Emperor Yung tsch'eng, the Manchu general and prince "Ta" (Ta ai) created the minister-residency of Hsining fu. To this day he is known to every K'am Tibetan and honored in songs (1) as the Selanf dorge amban, the Hsining amban with the yellow, golden girdle.

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Suddenly, without any organic relationship, the wide plain of the Sea of Stars, which is many kilometers broad, stretches out from the midst of numerous hills and mountains. It looks like a filled-in lake through which the Soloma (the Mongolian name for the upper Hwang Ho) follows its winding course. Somewhat farther to the east of the place where the obo of the Odontala (Mongolian name for "Sea of Stars") looms up, the blue mirror of Ts'aring Nor begins. It is surrounded with many green hills and sends out countless inlets far into the hilly country, between low slopes filled with hollows

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1. In the year 1731, i.e. eight years after the defeat of Lobzang Dandsin (See pages 312 and 313, Vol. I), Norbo Taidschi, the Dsassak of the western Torghut banner, as well as Duke Latsab, the Dsassak of the southern, left Khoschot banner, and Araptan Taidschi of the southern, front Torghut banner rose up against the Manchu. All three banners were near Rardscha gomba on the Hwang Ho. The Norbo people drove out all Chinese that had settled down on the Koko Nor. It was the last flare-up of the love of liberty and the old lust for power of the Mongols of Koko Nor. The Khoit of the Bayan Nor immediately came to the assistance of the Chinese, and in 1732 under the amban Ta ai these last heroes of freedom were defeated on a battlefield south of the Soloma and not far from Muru (murēn) ussu. Norbo was captured and beheaded in Hsining. In this way a larger part of K'am was brought under the administration of Hsining.

and narrow ridges. (2)

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103 2. Ts'aring Nor (written skya rengs according to Ch. Das) is the Mongolian name for the western one of the two large lakes of the Hwang Ho which were discovered in 1884 by Prschevalski. In 1904 I stood on the shore of the eastern lake, Noring Nor (Mongolian). There the character of the landscape is still quite the same. There, too, are found low, rounded hills between swampy hollows. The Tibetan names of these lakes: "Ts'o schdyara," "Ts'o ngora," are more common than the Mongolian ones. (The Meng gu yu mu dyi calls the lakes Tsha ring and O ring, in which ring means "long," o (Tibetan ngo means "blue," and tscha means "white.")

133 On a ride with Tschang over the eastern part of the Sea of Stars I made good time. There were countless dunes on which some grass was just sprouting, and three broad branches of the Soloma that were always more than one meter deep, as well as accumulations of loess-like dust hard by impassable swamps and between flat lakes. For a long time these formations seemed to comprise an inexplicable mixture. Even in the days that followed when I traveled along the northern edge of the Sea of Stars, I often asked myself how it was possible that desert and swamp could be so close together here. Even though the month of August had been much drier here than June was in the Wahong Mountains, nevertheless the picture of desert and swamp did not seem to fit the climate (see p.106).

000 On August 12 I gave the order to set up camp on a pretty, sandy pasture in the plains. During the day we were only once enveloped for a few minutes /16/ by a cloud of hail. The snow-fields on the Kuenlun Mountains (1) to the south were greatly reduced as a result

1. It is not surprising that the Chinese call this relatively unimportant mountain by this name which for us means one of the largest Asiatic mountain ranges. As we have said before, for a Chinese acquainted with the locality, the name of a mountain range means only the name of a particular peak or pass. In this case, I suspect, the reverse is the case: a Chinese name that is used in some distant place was afterwards applied by officers to a certain place.

000 from our camp-site in a barchan shelter.

On August 13 I attempted in vain to get with my caravan over the swampy plains toward the south. It was not to be considered on the barren plain that glittered white from countless quartz fragments. /Plates I, II, III and IV appear between pp. 16 and 17 in original text//17/

On August 14 I was again snowed-in for a whole day and unable to see anything. If I sat on the floor of my tent amid all the packs, I had just about as much room as in a narrow ship's cabin. How I envied ship travelers when I had to wait for days within my narrow tent walls, while every gust of the wind drove a fine mist through the walls of thin cotton. The few books I had with me took on the appearance of playing cards, and acquired the added attraction of substituting for games of patience.

Our only diversion on this latest snow-bound day was the chase for a kyang stallion that for hours had been grazing peacefully among my horses, and the sudden death of our little favorite, the kyang foal. It had convulsions and died immediately after. Lao Sung also had a mild adventure here. He was supposed to watch the herd of sheep but it had got away from him. The herd and my servant were not to be found for a day and a night. The next morning he said that the sheep had suddenly fled from a bad spirit (dri /written hdre/ Tibetan). He maintained that he had had a dreadful night; quite close to him bears were sitting about. It is true that on the following day during our march I killed an enormous old bear. The minute it appeared it was immortalized by the camera and then the fatal bullet was fired. (Plate III). The blow that my hand camera received on this hunt was too much for it; this was the last picture it took in Tibet.

133 The western border of Sing su h'ai also consists of low sandstone hills. In the midst of these on an entirely flat pass and in sandy rubble lies the water shed between the Hwang Ho and the Schogha Gol which breaks through a distance of many days of traveling to the west toward Tsaidam. From this vantage point I could once again look beyond the Schogha Valley and see a long stretch of the beautiful Burkh'an Buda Mountains that formed a sharply divided chain of peaks. The detritus masses reached up to the passes, and I take them to be remnants and testimonies of the huge glacier that once covered Tibet.

000 Here at camp 69 the dispute over the Barun tip flared up with renewed force among my men. Sung and the Tibetan Tschaschi angrily pulled each other's pig-tails, even though neither of them had got anything. Sung now wanted to force his comrade to take over a

his previous experience and before I was ready to shoot, his shot had driven away both of them. 000

I had come to the region about which the Tsaidam Mongols had so often told me, the highland in which there lived people who did not raise cattle or sheep and did not farm, but who dressed in thick furs and nourished themselves on mice and rats. They were supposed to have their homes hard by the Soloma source water (1) and the Muru Usse (2).

1. Mongolian name for the upper Hwang Ho.

2. Mongolian name for Yangtze Kiang.

The Tibetan bears (Ursus lagomyarius, Ursus pruinosus Blyth) vary 136 a great deal as to color. The white neck-band also differs greatly in width. Sometimes it is only a white spot at the throat, about the size of that of a Malay bear, and sometimes it is a broad white band that runs all around the neck. In fact, often the bear's shoulder is completely white over a 20 centimeter wide area. The color of the body is a light, dirty grayish yellow. The hind legs have different-sized areas of greenish black. In winter, especially, their color is very dark. No wonder the Mongols in Tsaidam tell each other that up in the mountains there are black, white, and yellow bears, and bears as red as cattle.

August 18. Only a short distance from the camp-site I had come 133 to a low saddle between two peaks where only isolated white rocks containing petrified carbon-coral fragments stood out among otherwise rounded mountain formations, when I had a view of the extreme western, true headwaters of the Hwang Ho. They lie in a trough many kilometers wide and are covered with a dense, low growth of hard rushes, interspersed with innumerable drainless pools. From the largest basin that looked like a lake flowed a brook that was one meter deep but so narrow that it could be crossed with one step. This we can probably call the true source of the Hwang Ho (3) (Plate VI).

3. Chinese accounts about the upper course of the Hwang Ho are very scant up to the beginning of the Yüan dynasty. According to De Mailla, Histoire de la Chine, Vol. 9, p. 404, 1779, Kublai Khan sent the Chinese mathematician Tu schi to look for the head waters in the year 1280.

.133 According to his account, the water gathers from a hundred different directions in a large swampy plain (called sing su h'ai) and from there enters the two lakes Ala Nor from which flows the Tschi ping ho which farther down is called the Hwang Ho. However, Tu schi is supposed to have come only as far as Kue de! (This accounts for the confusion between the Alang Nor and the Ts'aring and Oring Nor.) In the year 1704 the Emperor Kang hsi demanded a new report on the source of the Hwang Ho. After the Hwang Ho flooded the great plain in the year 1780, Emperor Kien lung finally sent out an expedition in the year 1782 to explore the river thoroughly and to make a sacrifice to the river god at the source. With the help of the Koko Nor-Mongols, Amita, son of Akuli, went from Hsining fu up to the source. He reported that he followed the river Altan Gol upwards from Odontala (Sea of Stars) and thus discovered the golden rock of the north star (Altan gashun tscholo) which is an isolated, golden-yellow rock about 100 feet high in the pool that forms the source. (See further: Mémoires concern. les Chin., Vol. 10, and Plath: Mandschurei, Vol. 2, Timkowski, Vol. 2.) In recognition of the support which the Mongolian standard-bearers lent the Manchurian explorer, most of them were at that time appointed hereditary princes and taidschi.

136 A pair of the yellow Chinese kasarka-geese ruffled the blue surface of the lake, and two others in their thin moulting feathers laboriously /21/ flew off making a clucking noise just as we approached the shore. A lark rose up from the heath which was clad in its autumn colors, and the bird proclaimed in its shrill tones the peace of this world which was untouched by humans. A few wild yaks made a coal-black silhouette against the brilliant yellow-green and the blue of the sky. But peace and happiness were a mere delusion. On the motionless mirror of the lake floated the swollen carcasses of two yaks and along the shore there were many yak skulls and bones, more than two hundred from animals that had only recently been killed. Several days before this we were struck by the number of sick yaks that we came across. They were standing there indifferently, spittle running from their mouths, and mutely noted our passing. Only if we got too close did they wearily turn aside. Here at the lake seemed to be the

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000 gorged a little too much on the kyang and was therefore giving himself the cold-water cure. Fortunately he did not seriously pursue my three men, but also hastened away after being so rudely interrupted in his slumber.

The adventure gave the men plenty of material for the long evenings around the campfire, accompanied by the monotonous swish of a pair of bellows. I found the Chinese always very sensitive toward taunts and sneers, and since the motto: live and let live! is bred in their bones, the run-aways were teased surprisingly little for their obvious cowardice. Only Tschang who had always boasted of his brave deeds, was not permitted to open his mouth so wide during the next few days. In fact, he had few friends because, although he was clever, he was also very lazy.

133 When in summer the sun glistens on the uninhabited heights of Tibet and perhaps far down on the horizon a gray veil of cloud that passes with barely audible thunderclaps, gradually conceals peak after peak and valley after valley, causing the otherwise blue hollows and elevations to turn white within a short time, - at such times it is magnificent up there in the wilderness. And this is the way it was on the blunt crest that I had chosen already the day before in the mountain range southwest of the Hwang Ho source, as the route of our journey toward the upper Yangtze Kiang. This nameless point was not a mountain that loomed up above the others and yet I was able to see a tremendous distance across the many parallel mountain chains. One chain after another ran N 70° W. Each one was endlessly long so that where they left off one seemed to see the phenomenon of the curvature of the earth, just as one does with sail boats on the high seas. Between them lay just as long parallel valleys, wide and brown, with many tiny oval lakes in them, and this completed the picture of a gigantic petrified ground swell.

There was a snow-covered height, not very far above the 4,790 meter high pass which my caravan crossed, and beyond it lay unfolded in perfect beauty the view which I have just described. Here also the rocks presented a picture of the same conditions that we had encountered everywhere since we found the granite masses in the Burkh'an Buda mountain range: here also I found vertical layers of clayey slate and
000 sandstone. I was laboriously climbing over the thin fragments of disintegrated outcroppings and scrambling up the almost perpendicular rock slabs that look as though they had been artificially rammed into the softer intermediate layers which on the surface had become detritus and sand, when above me rose up as though by magic the

000 at the twelfth hour, and rain and hail stung our faces for an hour or more. Toward evening (it was always astonishing how quickly and easily it all happened) the cloud masses broke up. The wind died down, and by the time night fell the enchantingly beautiful starry sky of Tibet appeared, offering an invitation to my men to spend hours telling their legends of the river of heaven (the milky way), of the king's son and his beloved who were permitted to live together only after they had become stars.

136 After I had come down lower and thus reached better grass pasturage, larger herds of kyang began to appear; unusually often there was other wild game: yak (Plate VII), hares, foxes and marmots, so that we did not have to kill a sheep for long periods. On the other hand, there were no orongo-antilopes in the valley. These animals evidently like the extremely high, inhospitable regions where, on wide slightly undulating plateaus there is just enough food for their modest needs. On the other hand, I here added a beautiful example of ovis poli to my collection. This is a gigantic wild sheep which the Chinese call da t'ou wan yang, and the Mongols, argali. It seems to be rather rare in East Tibet, and to occur only in the northern part, in rocky /28/ regions above the timber line. I never saw more than three or four at one time. They are extremely timid, even though they have little to fear from the Tibetan matchlocks. The buck was almost as
000 big as a young wild yak. My men shook their heads doubtfully at this new, crazy idea of their master who was bent on taking along what seemed to them a useless mass of bones and powerful horns. It required infinite patience and cunning to persuade the men to carry out my order, and only the promise of a larger tip finally induced one of them to add it to his burden.

"It must be especially powerful medicine," I heard Tschang saying outside at the campfire, "that the lao ai ye is willing to give so much for it. Why, apart from the tea money it will surely cost him two yaks, because the burden will be too much for them if the gui of the animal ever mounts it."

133 The way down the valley was endlessly long. Over a period of days we looked in vain for a large body of water. The walls of rock and rubble slopes seemed to rise up ever higher and wilder. On the morning of August 28 nothing in the steep, narrow mountain region indicated the proximity of a large stream, when suddenly we came round a bend and heard the sound of the mighty Yangtze Kiang quite close to us. Again part of the task that I had set myself was carried out. We had reached the "Blue River," the Da Kiang, the Kin scha

Kiang (river of golden sand), the Tung t'ien Ho (1), the Muru Ussu (2) of the Mongols, the schDdre Tschü, Dre Chu of the Tibetans and all the other dozens of names that people have given this river on its long journey seaward. It is not 200 meters wide and pushes and winds its way between countless high terraces, exactly as I had seen the Hwang Ho do in the Ngolok country two years before. Here also there was a relatively narrow parallel valley on either side of which mountain chains rise up to a height of 1,000 meters, consisting of upright, almost perpendicular sandstone and argillite banks, with rich veins of quartz. (Plate VIII)

I immediately rode one of the largest horses I possessed into the 000 stream, but after a few steps it had already lost footing. Much farther down-stream we finally came, panting and puffing to the protective shore. It was impossible to ford the stream with our heavily-laden animals, even though the much wider river bed indicated that at present the water was at a particularly low level. However, just at the point where the valley which I had descended opened up, the conditions for a crossing seemed very favorable, and I therefore decided to camp right on the spot and have a raft built. Provisions had been made for such an emergency. From the time we had left Barun the sheep and goats we had slaughtered were skinned all in one piece, so that these skins had now only to be tied together at the legs and neck and the bags thus formed blown up. The poles we needed I had had dragged along from Barun Tsaidam. They were used to build the frame of the raft to which twelve of these air sacks were fastened. Although my /29/ men were not exactly river men, they nevertheless proved to be very adept in this primitive art of raft-building. Each of them had often seen such a work of art on his native river, and most of them had traveled long distances in this way.

And so everyone was in good spirits on that first afternoon along the Yangtze Kiang. The temperature of the water was +12°C, and most of the men used the opportunity to bathe. None of them could swim without an air tube, but with one of these which they tied lengthwise to their chests so that their entire torsos were practically

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1. Rockhill in "The land of the lamas": t'ung t'ien h'o (river of all heaven).

2. Or: Muren Usse (river water), formerly: Kuke Usse (blue water).

000 tschü ka. For two months they had let the animals of their caravan graze in Nag tschüka while they themselves, as was customary, went the rest of the way to Lhasa to the kowtow on hired horses. Now they were thanking their hosts by robbing them! "Oh well, that happens to be our custom," was the way dirty Tschaschi finally excused himself. /33/

133 A brief day's march west of the ford again took us, by means of a gradual ascent, into the actual High Tibet. There the orongo-antelope again appeared. The farther west we went the lower became the mountains which rose out of the ever-widening desert valley. The mountains throughout showed almost vertical strata of sandstone. A whole row of mountain chains which at the Chu Mar ford are divided by deep valleys and loomed up before me at the river, disappear in the west under the level of this high plateau. From the deep tub-like valley of the Yangtze Kiang which, at the place where I ran into it, was attempting to change the typical U-shaped valley of the glacial age, I had climbed up, within a few days, to the high plateau of North Tibet, which spreads out more and more to the west.

I traveled along the southern border of this valley. There, at the northern foot of the mountains which are at first only 400 meters high and a mass of deep furrows, there were still a great many continuous grassy stretches. The middle of the upper valley was barren and only the lowest pulvinate plants covered the ground. Somewhat to the north of the center, the river which I had crossed at the great ford, meandered along in a shallow bed. Beyond the river I saw sand dunes which, in the distance, toward the northern edge of the valley, took on ever mightier shapes. The natural boundary was again formed by flatly ascending sandstone mountains. In the distance they looked like a solid mass, and in spite of the Tibetan clarity of the atmosphere, one could see individual valleys at this distance only with the help of a good pair of field glasses. At the extreme northern horizon, finally, could be seen mighty domes of snow. At first glance it was impossible to realize that these were only the extreme heights of narrow mountain ridges stretching immeasurably far to the northwest. Each of us thought that the first peak which we could only see indistinctly and vibrating in the sunlight, was a small cumulus cloud.

000 At that time I had to travel westward for several days before I realized what lay before me and how I could reconcile the vast panorama before me with the scant picture on my map. Without realizing it at the time I had climbed the eastern end of the high valley which was more than 1,000 kilometers long, along which Hedin

6: Tafel--68 T-3 (1905-1908) 1914 AJ1 Tibet
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Plate XII.

/40 (D)/

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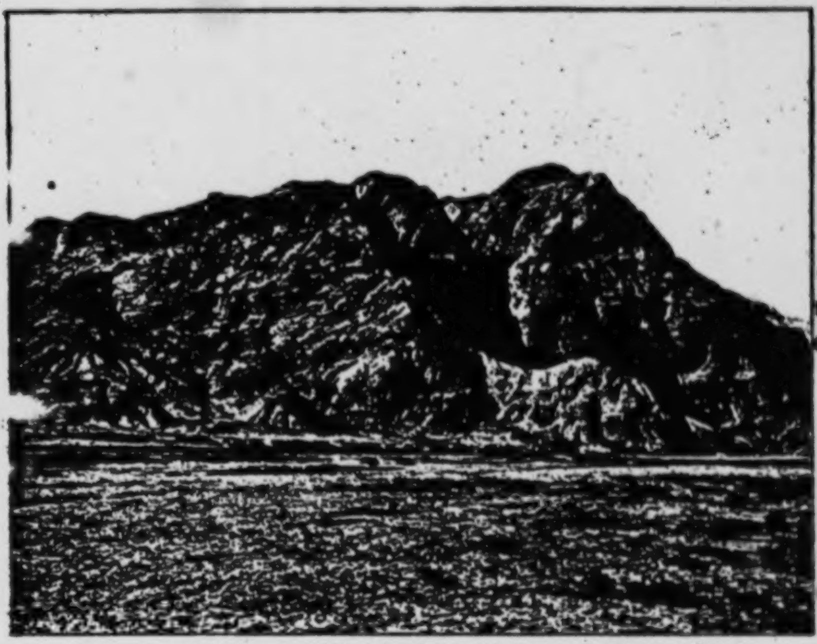
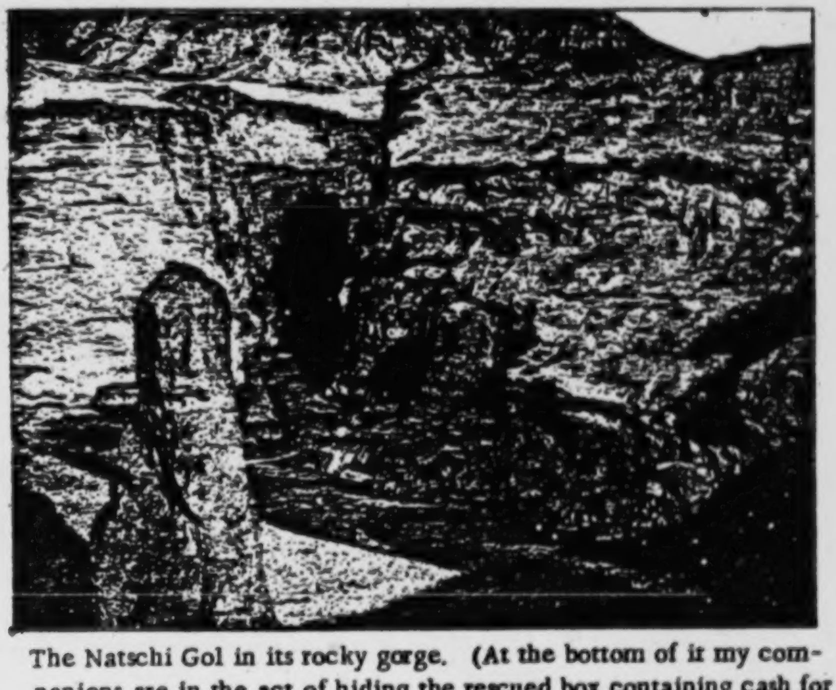


Gorge of the Schogha Gol

Chalk mountains at the Schogha Gol. (In the foreground lie the five last yak oxen.)



The Natschi Gol in its rocky gorge. (At the bottom of it my companions are in the act of hiding the rescued box containing cash for the journey.)

our cooking fire and saw us. But the bear took his time. He raised 000 himself up on his hind paws, plopped down again and stared at us until we got up, threw stones at him and set our dogs on him. Then he turned around quickly and in a rapid trot overtook Reinecke and Isengrim.

On September 27 we finally reached a notch, an entirely flat 133 gap (4, 870 meters) in the chain of the Marco Polo Range. From here it continued in an easterly direction and there were only a few high mountains. Later in Tsaidam I learned that this was the Tschüm tsing pass (Plate XI). From here there was a steep descent to the north down to a stream valley running toward Tsaidam. Shortly before, we had seen in the distance, to the right, a large lake whose blue mirrored surface extended 15 kilometers to the east. It looked very pretty surrounded by low sandstone- and argillite hills, and lay somewhat below 4, 700 meters in front of the eastern end of the great moraine of the Marco Polo Mountains.

At this place our yak calf had to give up his young life. There 000 was a great to-do until it was slaughtered. Everybody suffered from hunger but no one wanted to undertake the killing. First off the Dungani declared that they could not commit this great sin. Finally a couple of the more enlightened ones, especially Da Tschang, persuaded Ma to kill it according to Mohammedan rites. But only the thought that the common cooking pot would become un-kosher for them if the calf should be strangled according to Fan tse ritual or perhaps shot by me, moved him to do it. The entire end of the day until far into the night they debated about this sin and about the actual or imaginary necessity which prompted it. The whole four- to five-month-old animal was consumed by us in one single meal and yet not one of us /47/ had had enough to eat. Not one of my companions had ever tasted veal before. It was excellent meat, but because of the sin involved, they admitted only reluctantly how well it tasted.

The valley down which we traveled was more barren and desolate than any I had previously encountered. I did not cease to marvel how the Tibetan caravans find enough food here for their herds of yak which number in the thousands. It seems as though one could count every blade of grass along the way, so sparse is the growth. The sharp-edged slate and sandstone slabs looked black among the slopes in the sameness of their vertical stratification. Detritus slopes such as are found in our Alps were hardly to be seen. Atmospheric precipitations are so slight that they can hardly move along the fragments into which the primary rock is split by the daily freezing and thawing of water in cracks and crevices. The rock generally disintegrates on the spot and turns into fine dust and mire, out of which more resistant layers that still adhere to the rock, project in the form of paper-thin laminae and fragments. / Fig. 4 appears here in original text. /

In our first camp in this valley a foot of snow bore down on us in the morning. During the night hard, round kernels, like hail, had bounced down. When I cautiously peeked out of my felt cover, I saw the yak oxen lying beside me, motionless, like stone idols. I was ready to pronounce them dead when I heard them grind their teeth. They had nothing in their stomachs to ruminate.

At half past six in the morning it began to clear a little, but soon new clouds appeared. We "made our toilets" and then squatted silently around the fire which in three-quarters of an hour hardly brought the tea water to a boil. An icy wind penetrated our bones; it preserved the snow this time, although usually the effect of the sun rapidly makes the snow disappear. And so we tramped on down the valley. The luo tse or tie-shoes that we had sewn at the unlucky camp were scraped through at the heel and ball of the foot (see Fig. 4). Most of the men complained of sore feet. Even the yak limped more than they walked. Their hoofs were worn down. Three of them were lame and almost all of them were chafed. Formerly I always treated these wounds with kalium permanganicum which resulted in rapid healing. Now I had to watch helplessly how the wounds grew bigger and bigger.

September 28. We are still following the valley. It is terribly dry and barren. The stream has also dried up. The desert-like character of the Central Asiatic camel steppes is beginning to appear. The grassy terraces that have served as campsites of caravans stand out like oases.

Today we shot a lonely wild yak bull, an ancient, tough animal. Its body had not yet grown cold before we were already cutting off pieces of meat /48/ and eating them raw. Only after we had satisfied our worst hunger pangs did we look for dried dung and then lay the steaks on the little glimmering heap and roasted them. We boiled only very little meat and that for a short time only, so that it would not become as tough as leather.

Finally, amid mist and fog, a larger stream appeared toward the east. This was the huge valley of the Schogha Gol which Prschewalski had at one time discovered and which I had longed for. The river is

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133 divided into several branches and makes wide bends, whereupon it enters a narrow passage between chalk cliffs at the point where we reached it.

000 We had now descended to 3, 980 meters and were rid of the discomforts caused by the thin air. There was now quite a bit of vegetation, thorny, prickly bushes, even shrubs that were almost as tall as a man, but there was no more grass for the starving animals. It was terrible for me to have to see their suffering.

In the camp at the Schogha Gol I had to reach a difficult decision. To follow the Schogha downstream, as I had planned, was out of the question. The river disappeared between absolutely vertical walls of limestone (Plate XII). We had waded one-half kilometer down the icy stream without seeing the end of the gorge.

Should we follow the Lhasa road further and go up-stream along the Schogha,or should we take new paths across the unknown rocky mountains in front of us to the north?

I weighed off our provisions. If they were strictly rationed they would last eight days. During this time it would, however, be impossible for us to reach inhabited country by way of the Lhasa road. It was hopeless to count on hunting luck and stretch our supplies with meat, because of the barrenness of the region. The morale of my men was completely undermined when the new obstacle, the Schogha gorge, confronted us so unexpectedly. I had to hear bitter reproaches, as though I were to blame for all our misfortune. If luck did not soon come my way I would have to look forward to serious mutiny. Nevertheless I risked abandoning the well-worn road which filled my men with such confidence. Better a horrible end than endless horror!

Thus we set out into a trackless uncertainty, and after crossing the Schogha we climb up between bare slopes of rubble. We are surrounded by nothing but stony, cheerless barren mountains. The yak can hardly move, now that they are even supposed to go up-hill. Tscheng, Sung and Me do not cease to rattle off their prayers, finger their rosaries, and swing their prayer mill. The day is slowly dying. In vain we halt to look for grass and water. Our need was great. But when it is greatest there is always help nearest at hand. Late in the evening we came to a small patch of grass, we came upon snow which we could melt, and we saw close in front of us a pass from which beckoned a lab (r)tse. (1) At least there had been people here before us!

1. I later learned that it was called Schah'ka kottel. The Ngolok are supposed to use this pass on their robbing expeditions.

ourselves should get out of this waste land and reach people, we would return with fresh animals and gather it up. Without a word the camera, the box of plates and cartridges were buried in a hollow. Silently we dragged on. Every step was an effort. 000

A second valley now joined ours from the south, on the left. It is rather narrower than ours, but indicates the direction and points directly north, in other words to Tsaidam. My aneroid barometers indicate about 3, 200 meters. Consequently it cannot be much farther to the Mongolian plain. But where in the world is the Nätschi Gol? The valley to the south is also completely dry and sterile. The sands of the valley bottom stretch completely flat over to the farther foot of the mountain. There is not a trace of a summer rain bed. - - There - - what do I hear? 133

What is that murmur? - Is it an hallucination? Is it the wind humming in my ears? I go on a few steps and am standing quite close to the sought-for stream. Deep down in a narrow crevice a mighty torrent churns its yellowish green waters. The sudden, vertical drop into the broad sandy valley was almost 100 meters deep (Plate XII). For a long distance it was impossible to get to the water. Even at the place where we finally camp in the evening we could reach the water only by climbing hand over foot. /51/ There was no food for the animals here either. A few kyang - perhaps it had been riding horses - had once passed a night in the vicinity. The yak devoured their old, rotted dung. It was disgraceful! One of them - it was the second of the two we had picked up on the way - was at the end of its strength. It was still comparatively fat. We therefore killed it and boiled its meat all night long. We consumed it ravenously the next morning, but it still tasted horridly sweetish and had a nauseating effect. 000

October 4. In the gorge down below we buried the rest of our things. The bar silver, our treasury for the journey, was for the most part deposited here (Plate XII). Only the notes and sketches of maps were taken along. The last two oxen could stagger along almost completely unburdened. At the slightest slope, however, where there was only a modest ascent, they wanted to halt and lie down. Their hearts were giving out. The alpine animals that scarcely ever came down lower than 3, 000 meters suffered just as much from the exertion as humans. On this day, too, we went on into the dusk. During the afternoon the Nätschi Gol Valley had grown continually wider. The river was far off when we lay down to rest.

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6: Tafel--91 T-3 (1905-1908) 1914 All Tibet N.W. China AF13
Plate XIII.

/56 (A)/

Our view from the last pass (the Schach'ka kottel) on the way down to Tsaidam.

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K
782 Tsch'eng also always made a new tardo, the three stones of our waka. For reasons of superstition they never used one that belonged to a previous company of travelers. When we left he always said the following words to the tardo: "I shall see you again." This was done in the hope that the god dwelling in the fire place, whom he had given food, would protect him from all dangers and would safely bring him back to this same place. After my earlier accounts, I need not mention the fact that with the words, mtschod bambel he offered a libation to the gods of each article of food before he tasted it.

K
264 My guides were also very much concerned that we should gnaw all the bones clean. Lama dyi said: "Travelers who do not clean up their food will surely be attacked by robbers in Tibet, because their extravagance marks them as strangers and rich people, and the robbers lie in wait for them until an opportune moment for an attack presents itself." He carefully opened all bones and took out the marrow. Only the tibia must never be opened. I could never discover the reason for this; it was very dangerous, I was told.

K
787
[827] If one of us sneezed they said that someone far away had spoken the name of that person. Just as in China, white spots on the finger nails meant that somewhere a relative has died; and if someone's ears turned red, they immediately said that at home something bad was being said about him. When a sheep had been killed, they always examined the edge of the spleen and predicted the future from that.

K
754 The Dam-Mongols have the same superstitions as the Tibetans. They, too, believe that if one sticks a hair or a bit of finger-nail into a lump of clay that is supposed to represent a certain person /61/ or if one uses a picture or photograph, one can hex a person to death.

C
133 With Lama dyi we traveled 50-60 kilometers daily. We cooked only twice a day and we rode all day at a quick pace. On the second day beyond Tengelik we were still going almost due east. Soon we came out of the big forest. The Piedmont gravel which extended toward us from the foot of the Dsun mongu ula and Burkh'an Buda (a bare, projecting mass of mountains on the edge of High Tibet in the south) now bordered salt springs and a naked salt swamp behind a narrow chain of dunes. The swamp, fortunately, was rather dry so that the animals only occasionally sank in up to their knees and had to be pulled out. (1)

1. The Tsaidam swamp which I here crossed from southwest to northeast, shows forms which Hedin describes

> in speaking of his winter journey in the northwestern part of Tsaidam in his Scientific Results....., Stockholm 1905, Vol. III, p. 298. He adds profile illustrations. Hedin uses the following comparison: "like a gigantic and suddenly congealed stream of lava." A crust as hard as stone which resounded under the hoofs of our horses now covered the ground where, according to Lama dyi's accounts, in summer no one could get across. There was a complete absence of vegetation. The mire which was sometimes sandy and sometimes more earthy, as well as the salt on top of the swamp formed thousands of mounds up to one-half meter high, notches and lamellae which all came to thin points and were turned at an angle of 45° toward the west. Between these gleamed snow-white saltpeter (called biltsching here) and transparent crystals of cooking salt out of druses and cavities made by bubbles that had burst. These forms originate every year when the swamp dries up in the fall, as soon as the weather gets cold and the precipitation of summer ceases. Hedin describes them as he saw them in December. The peaks that are turned toward the west indicate the influence of the west winds. These begin in the fall and, together with the cold during the night, bring about a rapid evaporation.

The boundary between the Tädschinär dsassak and the Dsun dsassak territory runs straight through this salt desert. In the evening we set up camp at the H'ara (Khara) Usse Gol. The river had heavy, brown waves and ran toward the northwest in great bends. It was 10 meters wide but scarcely more than a foot deep and the river bed made only a small depression in the plain. Farther up the H'ara Usse Gol was a much more imposing body of water; there it becomes the Wulasetä Gol along which I camped in July. The Ikhe Gol, the Türketse Gol, as well as others find their continuation in this H'ara Usse (black water).

The muddy water pushed its way soundlessly through the barren waste which showed neither tree nor shrub. The entire country lay dead. The winter sky of central Asia rested upon it, not a cloud showing. And yet it was a magnificent picture. The narrow strip of reeds along the river bank swayed like a field of grain - it was the only thing the animals found to eat. Salt and saltpeter covered the 000

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000 plain round about. The blinding white of the salt blended with the whiteness of the ice that had formed on the banks. The far, far mountains looked like a faint line against the sky, bordering this wilderness, inimical to all life. When the sun neared the horizon a greenish cold mist descended upon the plain. It made us shiver to the bone, and conjured up a thousand new reflexes. And when it grew dark and I lay on the ground under my fur, like the men round about me, and listened to the whispering reeds and to the salt kernels which the wind blew softly over me, I was unable to sleep. Not a mountain, not a rock, /62/ not a shrub formed a quiet sillhouette to which the eye could cling. Only millions and millions of stars flickered round about me, even on the horizon they sparkled through the clear air of the highland as bright as in the zenith. I felt dizzy, and even toward morning in my dreams I felt as though I were all alone drifting on an ocean, without a will of my own, bowing to fate, just as Lama dyi with his nine dice determined it beforehand.

"Indeed, we love this land, our native land," the Mongols told me. Lama dyi simply could not understand that I did not find his native country magnificent, that I would rather not stay there. The deserts that surrounded his country, in which the little earth spirits (gji bdag) did not prepare the earth for humans, made his land seem particularly attractive, for it kept away the Ketutse and Tangutse, the Chinese and Tibetans.

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•133 Beyond the H'ara Usse we went on in a straight northeasterly direction. All around there were salt- and saltpeter surfaces, mixed with earth and sand; they were seldom in a pure crystallized state. We crossed several branches of the Bayan Gol which, in its upper part, is called Yoghore Gol. Lama dyi thought it was the Lu sha Ho of the Tang sen legend. In the evening we camped on the banks of the Bulungir Gol. With it we had reached the northern edge of the Tsaidam Swamp, for the Bulungir Gol gets its water from the ravines of the Serluk (Sarlik) and Timurtu ula. The entire distance we had covered in the footsteps of many hundreds of horses. They were the tracks of the bu se, the alms, which the Tädschinär dsassak had paid to the Gum bum monastery this year. The lama had driven 400 three to four-year-old animals home from their summer campaign.

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643 The two Mongols now became more and more wary. If we saw a few kyang in the distance Lama dyi immediately feared they were riders and robbers. In the evening of the fourth day we came to some tents, the yurts of the belli, the prince of the Kukut Mongols, that lay hidden behind stately dunes. The place is called Tsokh'o and is an

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(see p. 65). They do not throw the stones in a heap but place pebbles and flat stones the size of a fist upright on the side of the path.

beyond the saddle, the path descended lower and lower between the naked rocks. We were passing through the Domu gaschu Valley between wild gorges until, at twilight, we had put the Serluk- (yak-) mountain range behind us. And once again a huge salt swamp lay before us. It extended immeasurable kilometers to the northwest. We finally lay down to sleep at the edge of it. Our guides tied the nose ropes of the three old camels that we had hired in Dalan Turgan tight together, so that none of them could graze, but also so that none of them after the long day's march would further wound the soles of its feet on the many sharp stones. Besides the camels I had been given six ponies in Dalan Turgan, which were probably about 16 to 20 years old. They presented veritable sample cards of old hoof- and leg diseases. At first I had been charged one tael apiece and the meren would have me believe his Mongols had nothing better, that all the good ones had been stolen by the Tibetans or paid as taxes to the bei'li. After much cross-examination he was cornered and finally confessed that they were animals which the wang the king, bought himself at the Koko Nor, for he had had a little "encounter" with the Wanschdäch'e and was now paying blood money for a few Tibetans who were shot. The parties agreed on 120 horses as expiation; but since nothing was said about the kind of horses that were to be paid, the wang was buying them all over for one or two taels a piece, which according to the present exchange was three to five marks. Thus it is easy to imagine what a proud cavalcade we presented on that journey. On the second day everyone had to walk because the horses could no longer carry us. Even on the first day riding on the rattling, tottering skeletons was no fun, I had the most vigorous animal of all because it was the youngest, but it had /65/ deer hoofs in front and on the left hind leg it suffered from spavin. The latter disease, incidentally, occurs very seldom in Tibet.

133 From the extensive basin formed by the flat salt swamp of the Serkhe Nor, 2,950 meters above sea level, we traveled up the gentle rise of a broad valley mouth, and up to the little Dulan River which enters from the northeast. To the north as well as the south high yellow and quite bare rock mountains rose out of the fallow steppes. The scenery did not give a pleasant impression. Everything was dry and parched. Everywhere the valleys were filled with masses of detritus on which grew large bushes of a certain tough grass species

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(cobresia) which even the camels did not care to touch.

About 6 kilometers to the left of my path a tree and a building resembling a manor rose out of the plain. It was the former monastery and dwelling of the Kukut bef'li, which lay abandoned since 1896. Fleeing Dungani had plundered and burned it after the rebellion at Hsining fu had been suppressed. A few kilometers to our right lay, standing out from the plains like a small cube, an old Chinese fort with drill- and parade-ground. It, too, was abandoned at that time and lay completely dead.

When these two buildings were sighted, old memories were awakened among my men. My Ma from Bamba had been among the Mohammedans who had ignited the houses of the Kukut bef'li, whereas Sung from Kue de, was among the Chinese soldiers who were pursuing the fleeing Mohammedans, and had spent a month in the old fort with the Chinese commander-in-chief Yen.

The rebellion soon died down when, in January 1896, the first rumors reached Hsining fu that General Tung fu hsiang with his much-feared battalion was coming from the Japanese-Chinese war in Manchuria and rapidly approaching Kansu in order to suppress the Mohammedan rebellion. Even before Tung fu hsiang's arrival, the Kansu generals were able to break up the four-months siege of Hsining fu without striking a further blow, and even to imprison a large part of the Dungani and their leaders in Doba, in a fortress which lies below Bamba, a little to the north of the Hsining-Dankar highway. My servant Han was one of those who were imprisoned in Doba. After battles and assaults that lasted for weeks they finally despaired of the success of their cause. The Islamic fatalism and fanaticism of the Dungani melted under the fire of modern field artillery which the Chinese directed against the clay fortress. They begged the victors for mercy and when the Chinese demanded the head of the ring-leader, discord arose among the Mohammedans and it came to the point where Han and several others decapitated the Dungani leader who would not hear of subjection, in his own house. They packed the head dripping with blood into a bag and threw it down from the walls to the besiegers.

However, herewith only the possibility of negotiating with the Chinese had been brought about. My Han said that they themselves had never thought that the Chinese would keep their word and be content with the leader's head. The Chinese now demanded that 800 men should be chosen by the Dungani themselves and be delivered for decapitation. /66/ For six days the two parties haggled on the walls

000 about the camels, nor had they accomplished anything in the Ngolok-Horkurma affair. However, in spite of this, both interpreters were well-satisfied with their dealings and now wanted to travel back to Dankar as quickly as possible. They rode "ula," that is, the natives along the way had to provide horses and guides for them from one tribe to another. They counted on being in Dankar in six days in this fashion. Schü had received a present of a good, young horse from the Ts'ien hu; he sold it to me for an acceptable sum and so I could join the interpreters with two of my servants. I took only a few provisions and my notebooks and map sketches with me; the rest of the baggage and the remaining servants were to wait for the Wang ka. Just as we were riding off, Tsch'eng and Me whom I had, according to their wish, paid and discharged the week before, came to me weeping and complained that the two interpreters had taken 10 taels away from them because they were carrying on business in Tibet without a license. Tsch'eng had in the meantime collected money from the Nian in payment of old debts for boots. There was of course /77/ nothing for me to do but take on their fine. In Dulan se the two interpreters had also demanded a male donkey from a pen-sa (borax) digger who had come from Kurluk and also had no passport. (1) The poor devil had nothing else that was worth taking along. Among the rest of the animals that they were dragging along I also discovered an old acquaintance: the horse with spavin, that I had ridden on my way from Dalan Turgan. The person from whom they got that could only be grateful to them. It was a dignified, but strangely assorted cavalcade with which I set out from Dulan se.

133 At first we followed the valley of the Dulan River upward for a few hours, then we crossed a flat pass that was nevertheless 3,615 meters high, over to the Tala depression. The broad, treeless, yellowish green Tala plain stretched endlessly to the east. On the north it was bordered by grassy hills, but on the south there towered a snow-covered wall of mountains with wild, jagged peaks of tremendous size.

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1. From the region of the Kurluk- (Kurlik-) Mongols, five days' journey north of the Kurlik Nor, 8,000 Chinese pounds of pen-sa, unpurified borax (tala in Tibetan and Mongolian) are annually exported. Again it is principally Dungani who work the borax pits. It is processed in Dankar. In its purified state only about 2,000 catties are left over.

Between all this the salt lake Dábassu Nor stood out like a small, turquoise blue eye. C 133 According to my calculations this lake must cover about 120 square kilometers, but in the huge valley where there was not a tree, a wood, or a house for the eye to cling to, it dwindled to the size of a clear, pretty little pool. On Lake Dábassu the Tala Valley is already 40 kilometers wide. However, one could not have any conception of the true size of this valley in the sparkling clarity of the winter atmosphere and the total lack of objects of comparison. C 135 Lake Dabassu is the chief salt spring of the entire Hsining border territory. Its shores are bordered by a wide band of cooking salt, and snow-white masses of it float in the wind-whipped center of the lake. On the north shore an old Mongolian fortress stands next to a spring. Today two communities of Duchu-Tibetans, Duchu goma and Duchu chima, occupy the east shore. There are 140 families living in tents. Still farther east they border on the Tschebt'sa.

As darkness approached we rode into a yurt village where a pack K 485 of dogs almost unhorsed us. We had reached the small community of the Hartschiu (Kharatschut) dsassak, where the two interpreters had to change their ula and their guides. Since I was traveling with the two Tung sche, I was, without a word, received as a guest into the yurt of a Mongol. For a small fee my horses were driven to the community pasture by the women. They also sold me meat and flour. If one disregarded the construction of the tents, one felt one was among Tibetans. Their clothing, the structure of their faces, their customs and weapons were those of the Fan tse.

Today the Hartschiu are only a small tribe. K 619 There are cordial relations between the family of the Hartschiu dsassak and that of the Wang ka. Several generations ago the Hartschiu (they are also descendants of Guschri Khan) helped out the Wang ka with a son and heir, when the Wang ka were only able to fill the Mina-fo seats in the temple with their first-born sons /78/ but did not have enough for an heir to the throne. At the present time the oldest son of the ruling Wang ye was presented to the family of the Hartschiu dsassak, because he had no male heir.

On that evening I saw no more of the two Tung sche, but I heard C K 563 them working very hard. Blows were dealt because the Mongols did not bring them a sheep quickly enough; more blows, because the sheep, when it finally came, was not fat; still more blows because the Mongols wanted to furnish ula to a tribe in the north of the Koko Nor and not to one in the south. My ideas of the authority of the Chinese were completely refuted. I would never have believed that

000 Turning off suddenly we then sought the protection of a lateral valley, one to two kilometers from the road. Meanwhile it has grown pitch-dark. The horses are tethered and graze throughout the night, as far as the length of their rope permits. They stop for only brief half hours to lie down to sleep. We always looked for a spot for them that had the best possible grass and, if at all possible, was sheltered from the strong west-wind. When we were ready to lie down our hands and feet were stiff from cold and we curled up like worms in order to keep the last bit of warmth from escaping. At this time the thermometer goes down to -16°, and once on a pass it dropped to -20°, and the west-wind never seemed to stop. The last shirts we were able to rescue were long since in shreds, our trousers consisted only of traces. In fact, like three Ngolok, in grimy, dishevelled furs and with sheep boots and no stockings we rode for three days along the Blue Sea, the Ts'o ngombo. /80/

487 Our road consisted of an old well-worn yak path. It led from the Dabassu depression over a pass 3,750 meters high in the south Koko Nor Mountains, and then straight on, only one or two kilometers from the shore of the lake toward the Chinese border market Dankar.

● 133 The shores of the large inland sea are flat and sandy in the south. There are no projecting rocks. It is a broad flat valley filled with water, exactly like the neighboring tala was (to judge from the shell remains) before the Hwang Ho drained it in the east. The lake is probably at no point more than 100 meters deep.

There are many small brooks flowing into it. The Tibetans can count 108, as many as there are beads in their rosaries. All of them already had thick crusts of ice and therefore caused us difficulty. Many of them have deltas extending into the lake and form small lagoons. In the northwest is the largest tributary, the Bukhain Gol, which with its sediment has formed a peninsula extending 25 kilometers into the oval of the lake. From a great distance, from the heights of the south Koko Nor Mountain range, the discoloration of the water in front of this peninsula makes one realize that there is extensive shallowness.

Twenty-two kilometers from the southern shore the sacred island dances like a skiff on the blue restless waves of the Ts'o ning (1).

1. Mongolian: Kuisu (navel), or according to Meng gu yu mu dyi: Khuisun tolkhā. The Dankar Chinese call this island Hai sin Shan and say it is a mountain in the heart of the lake.

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Here the Akkas live and pray, and communicate with the rest of the world only in winter when the lake is frozen over. It is an island that rises up in rock formations with hills that are covered with grass pastures. In the clear winter air the island seemed very near and it seemed to me I could see everything that was on it from the road I was on. It is supposed to be eight li around. C 133

Nine kilometers from the south shore of the lake and 18 kilometers to the west of the large island of Ts'o ning there are still more cliffs rising up over the surface of the lake. They are white in color and are called Tsaghan khada by the Mongols. Among them is the rock which, according to the legend, one of the bad spirits, named Tscheger sāmo, threw toward Ts'o ning in order to destroy the island or at least move it from the spot. K 773

It was, so the story goes, around the time when unsuccessful attempts were made to erect temples and monasteries in Lhasa. The buildings always collapsed and the Tibetan king therefore sent his vassals all over the world in order to discover the reason for this misfortune. One of the lamas that had been sent out met an old, blind holy man in the plain now covered by the Koko Nor. The old man, in senile loquacity, said that at the spot where the king was trying to erect his temples there was a large subterranean sea. The latter would flow from Lhasa over into this direction as soon as an emissary of the king would find out about it. Scarcely was the secret revealed when the two heard the surging of the water and the emissary of the king could barely escape on his horse, while the old man was swallowed up by the waves. The water would even have flooded all the mountains if some divinity had not had mercy and taken a huge rock and stopped up the hole out of which the water was flowing. This rock is the sacred island Ts'o ning. However, the bad Titan was angry /81/ that the water did not cause more destruction and he wanted to throw stones to move Ts'o ning and re-open the hole. Fortunately for all mankind he did not hit Ts'o ning. The stones which he threw toward Ts'o ning from the shore, all fell into the water half way to the island and there they can still be seen.

According to a Chinese version a woman once wanted to fetch water from a well where the island is today and forgot to put the lid on the well. So the water rose up and covered the entire plain. A god, Wo fo (Buddha), finally had mercy and threw a slab, the island, onto the magic spring. C 773

There were magnificent grass pastures covering the entire south shore of the lake from the water's edge up to the rounded peaks that C 137

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6: Tafel--158 T-9 (1905-1908) 1914 AJ1 Tibet
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Plate XVII.

/104A/

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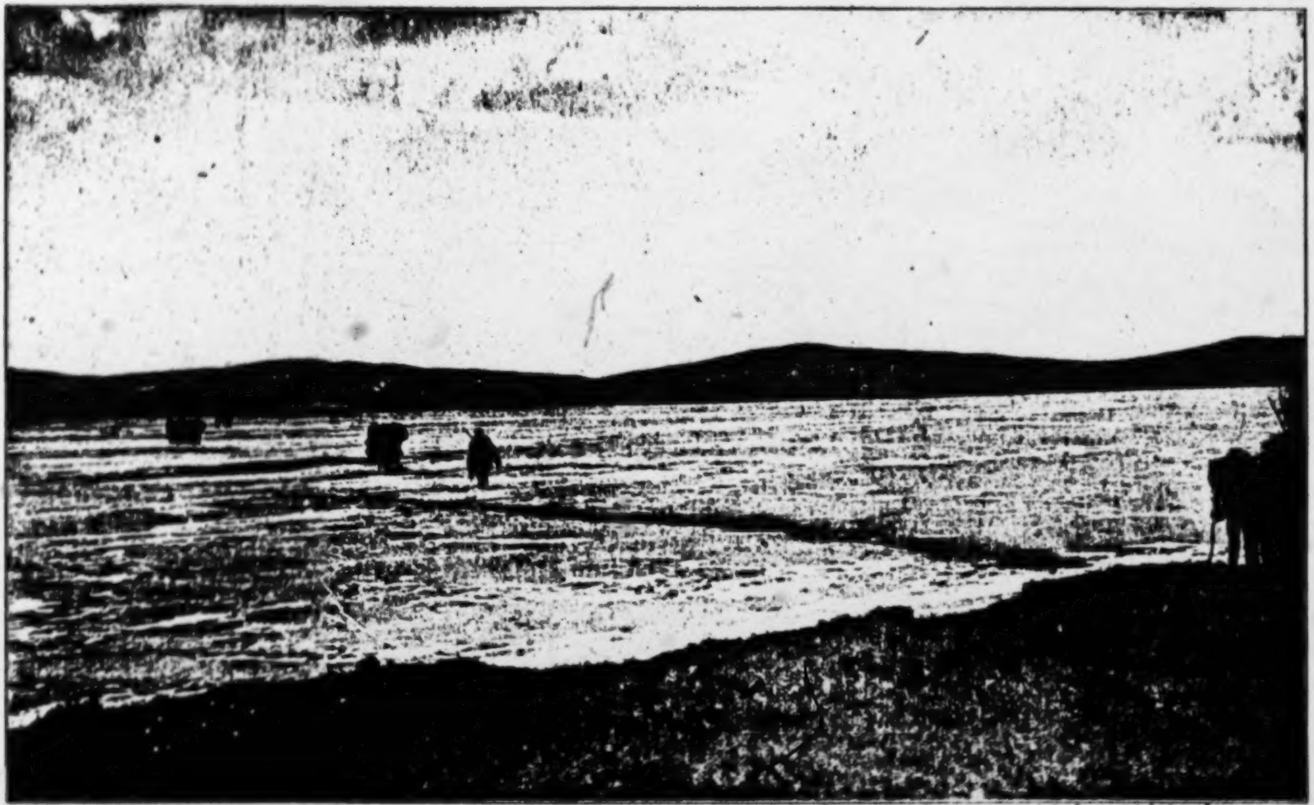

Passage across the frozen Ma Chu (Hwang Ho) in the land of the Horkurma Ngolok. (Altitude above sea level 4,200 meters.)

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6: Tafel--161 T-3 (1905-1908) 1914 AJI Tibet

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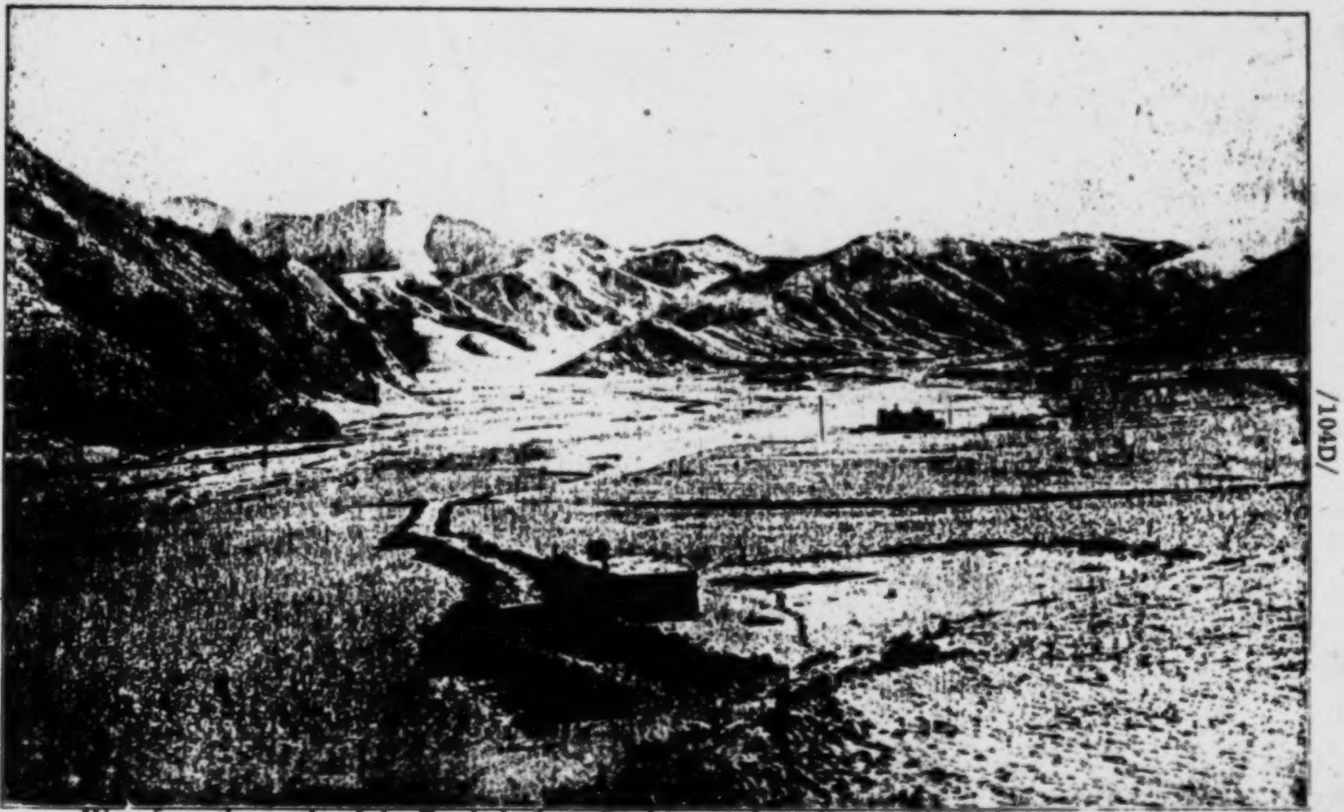
Plate XX.

/104D/



View from the castle of the Tendo be hu. (Looking up the valley.)

000 XVIII, XIX and XX appear between pp. 104 and 105 in original text. / /105/ painful heart constrictions. We felt thoroughly done in, in short, we had the same illness that had overtaken us on the Tschürnong. The others who had not fallen sick had been fortunate enough to have T 753 their stomachs reject the morsels that were meant for it. If the Tibetans say that it is a sin against the local spirits to slaughter the weak caravan animals and eat them and they will be punished by the gods for doing so, they probably base their belief on experience. Our camps during these first days of February where we were over 4,000 meters and the thermometer sank to -30°, in fact, even -35° night after night, were not the place to investigate in detail the cause of these toxic effects. The only thing I was able to determine was that all the animals in Tibet that could not keep up with the caravan because of exhaustion and that I had had killed showed ascites and an unusual amount of serum-like liquid in all the sheaths of the muscles, which is a well-known phenomenon among animals that have been over-taxed. The high altitude which brings water to a boil at 84° and the scarcity of fuel which, in spite of the use of bellows, causes people to eat boiled meat half raw, help prevent the harmful and disease-provoking substances from being killed.

C 133 On February 2 our daily storm did not get started until nine o'clock, but it kept up the rest of the day with undiminished vigor. It was exceptionally clear in the highlands and the northwest glacier and crevasse of the Amne Machin was plainly visible in spite of the distance. On February 3 the storm continued unabated. I shook with fever and my teeth chattered from it and from the icy storm. However, we crossed the Tossun Nor Plain and passed the east end of the Tossun Nor (1), where large springs formed open water holes at which

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1. The Tossun Nor belongs to the most beautiful of the highland lakes. It reminded me of the Vierwaldstätter Lake. However, there is not a house along its shore that invites one to stop, no pine forests, only two to three meter high willow shrubs along the shore. Dung re ts'o nag (pronounced "ner"), "Lake of the Thousand Mountains" is the name the Tibetans give it, because it is surrounded by high mountains that rise precipitously out of the dark waters. It is a submerged valley that follows the general direction of the folds in the mountains and formerly presumably sent its waters eastward to the Tschürnong. At least in that direction I found everywhere

> huge masses of erratic boulders that filled and blocked up all the valleys. I estimated its length at the longest point to be 57 kilometers and its corresponding width 13 kilometers. The area covered by water is about 340 square kilometers. In former times when the Mongols were still masters they were supposed to have set up their yurts here in summer and they gave it the Mongolian name of Tossun Nor because of the rich pastures that were favorable to the production of butter.

the animals could at last drink their fill. There were light gray wild geese surrounding the springs, and they made a great noise. They had been kept here by the abundance of fish. The lake was at no point frozen solid, its surface was covered with pack ice. Sand clouds blew across the plains; in the place where in summer there is a bottomless mire, now the shifting sands whip across the cracked skin of the face. The daily storm which usually lasted eleven hours with undiminished force, brought large masses of dust, and down below in the plain at 4,200 meters, visibility was very poor, shifting from a few hundred meters to about two kilometers. Nevertheless we had not dared ride past the Dung /106/ re ts'o dschayu where once upon a time Da Tschang had been attacked. Most of us no longer wanted to ride, everyone was afraid of freezing his legs on horseback. But after I had gone only a short distance on foot it seemed to me that my chest would burst and I struggled yawning spasmodically for breath, while shuffling along in my clumsy Mongolian boots.

On the following day we crossed a flat, low pass and came into the broad rdo tschü steppe in which the west wind blew up one dust column after another. We had now come into regions that drain directly into the upper Hwang Ho. This low plain also forms an undesirable swamp in the summer, onto which perhaps only light-footed antilope herds venture, but which was now transformed into a dusty desert, a pocket of shifting sands. We encamped on the first spot of grass that we encountered. But by the time we had unloaded, the day was gone. My man from Dankar, Li, almost froze to death at that time. His face was thickly swollen, cold, with no sensation, and waxen, like that of a dead person. He could no longer walk or talk. We hoisted him like a sack of flour onto a pony and dragged him out of the unprotected plain. At the camp we brought him back to life by rubbing him, and beside the fire he literally thawed out completely, so that he could soon hold the cup of hot tea and bring it to his blue lips. Strangely

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6: Tafel--173 T-3 (1905-1908) 1914 AJ1 Tibet
N.W. China AF13
Plate XXI

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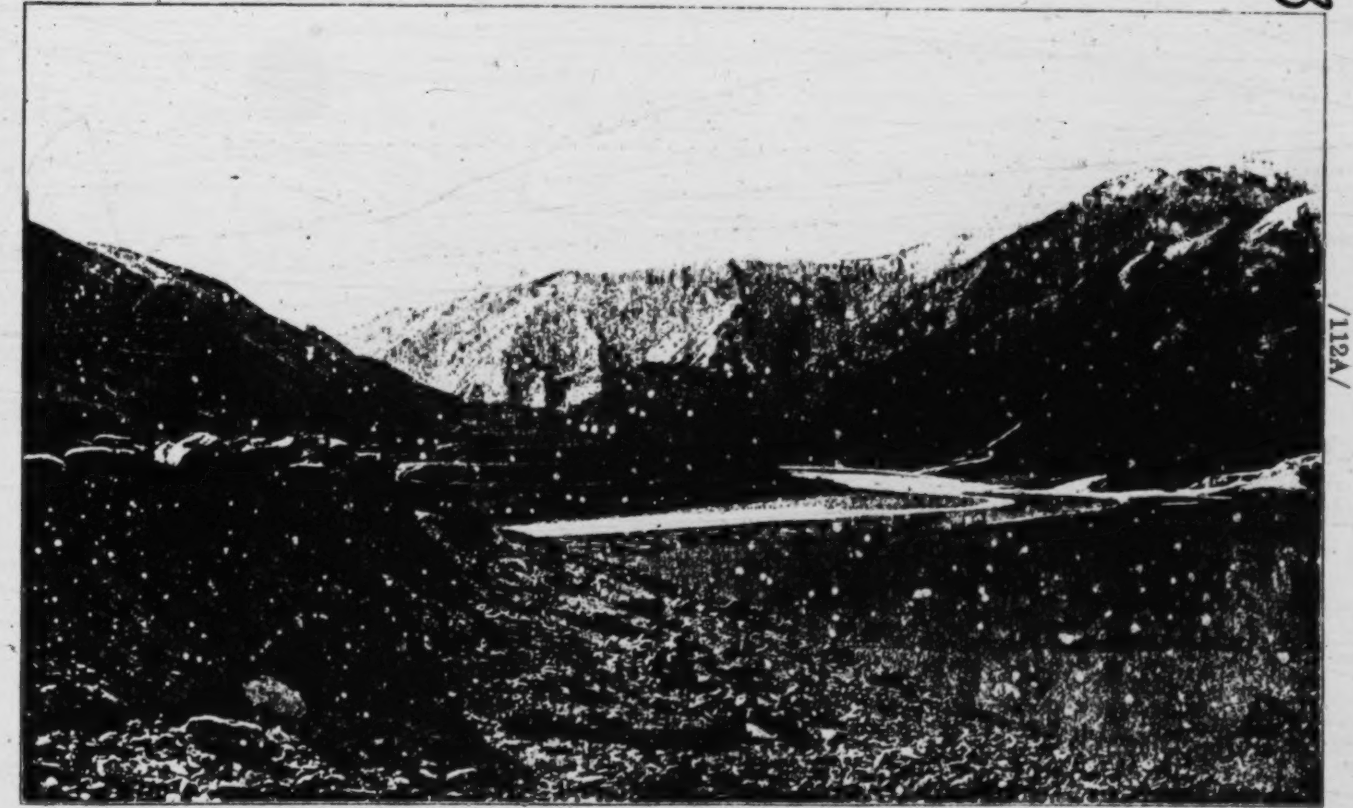

The Dre Chü Yangtze Kiang not far from Tombumda. (There are ice-floes on the river.)

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18 men, all bronze figures, grotesquely lit by the flickering fire, when the banter accelerated and quickly took on menacing forms. Suddenly the son of be hu, an extremely handsome youth of barely 18 years who had not yet been weather-beaten by the rough climate of his native country, leaps up as though he had been bitten by a tarantula. With flashing eyes he rips his broad sword out of its sheath and with a wild curse he is about to hack away at the singer whose turn it happens to be and who is making his audience laugh. The servants barely intercept with their swords the well-aimed, powerful thrust and the be hu himself with difficulty disarms his crazed son. The song had touched an old, not completely healed wound. The singer who was in the service of the be hu was a Dergi by birth. Now the Dergi had in the last decades used their power to humiliate the Tschendu by means of attacks, by illegal seizure and taxation of their fields, to such an extent that the be hu in despair finally offered the insolent Dergi an annual rent for his hereditary lands. In fact he himself had traveled to Hsining primarily because of /114/ this affair, and had complained to the amban and had asked protection from the Chinese government. Now a thoughtless word bearing on this matter had been uttered and suddenly our feast had ended. The little prince would not calm down, in fact he wanted to wrench everyone's sword from him and strike down his opponent. The latter was hardly less excited. While the chief was still holding down his hot-blooded son, my Mohammedans sneaked off and I, too, slipped away without a word as soon as I found a gap. All of us were familiar with the dangerousness of the Tibetans when they are incited by alcohol, and we had reason to be afraid that we might suddenly receive the brunt of their fury.

C 133

During the next few days our joint trek took us through low hilly country. Peace reigned in the caravan. The hills we had to climb were hardly more than 100 meters high and were gently shaped. Considering the high altitude, all the slopes and broad valleys showed relatively dense vegetation. It was seldom that I found a bit of primary or stratified rock in a corner of a brook or on a narrow ridge, that might tell me something about the nature of the earth here. Here, also, there are still to be found sandstone and slate rocks where the direction of strike is N 70° W, with the layers almost perpendicular. On the second day we crossed the Tschiang Chu (Kyang Chü) which was only 20 meters wide and frozen over. It takes a winding course through a mellow-looking valley that is visited in summer by nomads' herds. Here the large caravan lost two yaks that had slipped on the ice and suffered sprained hips. For this crossing the drivers had tied

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492 together the hind legs at the ankles of a large part of the animals and all the valuable hybrid yaks, so that they would not sprawl apart. The heavily-laden animals with short, immovable legs looked like large chests that were being shoved across the ice from behind. On the subsequent marches the loss of oxen was considerable, although the
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484 Tibetans covered only 20 kilometers a day at the most. However, we were often obliged to climb over frozen naka fields and high moors and that winded the animals. We always set out extremely early, earlier than I had ever succeeded in getting my Chinese started. Dawn was just faintly beginning when the last herd of yaks was quitting the old camp. During the first days be hu and his riders stayed behind until my Chinese had brewed their tea and tied up their packs. Then with a boastful smile showed me how quickly they could take down their tents and pack them, how skilfully a Fan tse saddles his mount and fastens the most awkward bundle to the primitive pack saddle with a few knots only.

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130 South of the Hwang Ho I found surprisingly much snow as compared with the northern part of my route. However, it was nowhere deep; a 10 centimeter covering is very ample for this region. There was snow over a foot deep only in the numerous holes, in the dried-out pools and basins of the naka moors, which here play a more important role in the growth of vegetation than in the north. At that time it was always very misty, too. Visibility was so limited that one could often not see ahead more than one kilometer. The west wind had lost considerable force and as a result /115/ we did not suffer so much from cold. But at night the temperature always sank to at least -26°.

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133 On February 11 we were obliged to cross a high, steep moraine 2 kilometers wide, where round granite boulders many cubic meters in size jutted out between reddish, loose sand. This mound is - so far as I was able to survey its gigantic proportions in the prevailing fog and mist - the left lateral moraine of an erstwhile glacier projection that extended over 100 kilometers from west to east. From it one reaches the broad Wa Yung or Tsa ge Yung, a plain running east and west, which harbors a small stream that later flows into the Re Tschü. The latter joins the Ser Tschü and, in the country of the Horkurma, finally flows along the wide swamp valley that is known by the Tibetans as the Re Chü warma, i. e., mouth of the Re Chü (mountain water) into the Hwang Ho. At the place where we crossed it the Wa Yung was over four kilometers wide and formed a precious grassy plain that had
000 been touched only by kyang, antilopes and wild yaks. Here, from

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South of the Wa Yung the hills gradually became somewhat higher and passed over into broad, massive mountains, although their gray-green slaty rock did not change. The valleys were all broad-bottomed, typically U-shaped and even at the end they were still broad, terminating like a trough. Many lateral gorges were kettle-shaped and frequently they lacked a valley- or ravine-like connection with the main valley; instead, they terminated high above the large draining trenches. There were indications everywhere - not to mention erratic boulders of granite - of an erstwhile large-scale glaciation and surface formations, both of which are characteristic only of old glacier regions. However, actual glaciers have disappeared from these regions, and not even an eternal snow field is left anywhere (Plate XIX).

The water shed between the Hwang Ho and the first large river that finally flows into the Yangtze Kiang was reached only after the third day from the Wa Yung. Our pass was 4,900 meters high and is called Rara niembo La (Plate XVIII). It was a moraine consisting of sand, scratched slate and sandstone fragments mixed with huge, rounded erratic boulders spread out over four kilometers between peaks that were only a few hundred meters higher. The mountain chain showed me a core of granite against which the argillaceous slate and sandstone formations of Tibet are pressed in almost vertical stratification. The layer is parallel with other large chains and around N 65° W.

From the Rara niembo La onward we went downhill somewhat more rapidly than we had come up from the north. The succeeding camps (Numbers 21 and 22 from Schara khoto) led us into altitudes of 4,745 and 4,490 meters respectively. Then we went uphill again, always between a labyrinth of hills up and down to the water shed near the Dsa Chu. The new pass lay in a chaos of peaks and was only a little under 5,000 meters. We rode through wild, jagged mountains until we reached the Dsa Chu itself. Not until we were south of the second pass, 4,500 meters high, did we come upon settlements, in fact the first definite traces of human beings. All the way from the Hwang Ho, 11 days of travel, nothing except perhaps half a dozen small stone lab (r) tse and here and there an old weather-beaten tab rdo betrayed the fact that we were on a road. The trade caravan covered this distance without a single day of rest. The Tibetans sought to cover the distance as quickly as possible, as though the road were on fire. Whoever had things to lose talked, day in and day out, only of the danger of robbers, and prayed unceasingly that the caravan might get through unscathed. No one ever again opened a brandy jug. At night most of the people slept without a tent, with

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collapses; it was hit. I was the most surprised of all at the accidental hit. The Tibetans regarded it as magic. Be hu grabbed the gun from my hands and from that moment on he guarded it like a treasure. Of course he had no conception whatever about gauging and I did not think it was in my interests to initiate him into the mysteries of our European art of shooting. For who knows how he will receive the next European traveler!

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On February 15 we encamped in the Sege Tschü Yung, a long longitudinal valley that has cut its way through the massive mountains of sheer slabs of slate, parallel with the other large river courses, the Ma Chu, Chu Chu, Tsage Chu and, farher south, the Dsa Chu and finally the De Chu (Dre Chu). A small rock hill, crowned with an obo rose up beside our campsite. It is called the Sege nara nadi obo, and is particularly yibtr (rdyibtsen meaning "venerable"). The rocks which show somewhat grotesque forms, are covered with long wool cords, and more or less faded prayer pennants fluttered on countless poles, huge wooden stakes and lances. As a result of our visit the number of pennants increased by a few more fresh, gay and colorful ones. At this point we happened on a spring for the first time in eight days. All the animals eagerly pounced on the bubbling spring that gushed from the midst of a cone of ice as /119/ though from the crater of a volcano. On the previous days they had only tasted dusty snow that they had bitten into while they were grazing. The farther south we pushed, the heavier the snow became. Yet here, too, there was a striking amount of evaporation. A fresh blanket of snow about 10 centimeters deep could be absorbed by the sun within two hours, even with a veil of clouds, without first melting. At the great water shed this side of the Dsa Chu Valley there was over a foot of snow. In the cavities and holes into which the animals stepped inadvertantly, it was up to one and one-half meters deep. On the last day's march before reaching the inhabited territory the K'am ba left behind a full dozen oxen and among my mules there were also some injured as a result of falls over rock ledges. The Tibetans would probably have had even greater losses if they had not sent out couriers announcing the arrival of the large caravan and had not been met by horsemen with fresh animals from the Tendo ba (Chinese: Tschendu) and Anir ba (Plate XXV).

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We had now come into the land of the Dsa Chu ka ba, a nomad people numbering about 20,000, which grazes its flocks to the right and left of the Dsa Chu (Chinese: Ya lung Kiang). It is part of the Dergi kingdom and is divided into 26-30 sub-tribes. Anir ba (Amir ba) broad, frozen Dsa Chu River, then up a broad former moraine to a watershed 4,480 meters high, and down a lateral gorge of the Dre Chu (of the Yangtze Kiang). 090

From the water shed to the south and southwest the eye could see only mountains, a sea of jagged peaks, a turbulent ocean of mountains. Black, dreary valleys, bare of snow, that had a melancholy appearance, were wedged in between thousands of white crests.

My first glance of the K'am province was not very inviting. And, to make my advance into these mountainous lands seem even more foolhardy, I was greeted with a thousand black, mistrustful, poisonous stares by lamas and lay horsemen. Not one of my movements escaped them, they were hostile to every note I took, every compass and aneroid reading; they saw in me only a common spy so that my companions urgently begged me again and again: "Don't show your notebook, hide your instrument, don't look through your glass, master! They are already grumbling because you want to explore their country in order to bring them sinister misfortune." T 609

The ease of travel we found on the high plateau is suddenly over. The Tibetan highland here is gutted by millions of deep channels. The peaks still extend to the high regions that in the west interrupt the broad plains and barren stretches; but in between the flowing water has, with violent force, formed ravines that shelter woods and fields, all kinds of animals and industrious farmers and craftsmen. Here the traveler can no longer cover immeasurable distances so quickly and easily as in the Tschang tang. Here one must keep assiduously to the natural paths that have been discovered and used by the inhabitants. C 133

In descending we first went down a rubble slope, then the path followed a foaming brook that was bordered with ice. When I had reached an altitude of 4,000 meters the snow disappeared and the lower we came, the steeper became the sides of the valleys that enclosed us like prison walls. In the form of black crumbling rocks the mountain slopes plunged down against the ever-narrowing valley bottom and gave one an ever-increasing feeling of oppression and anxiety.

Gradually my pack animals could no longer keep pace with the light-footed cavalcade of the be hụ, and we rode alone in the rear. A little below 4,000 meters we came upon the first houses. They were dirty, low, one- and two-storied huts made of baked loam and broken stones, with flat roofs and small holes serving as windows and doors. They stood one against the other, stuck together like swallows' nests. And everything about them was grimy and /Plates XXV, XXVI, T 342

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in the seventh month of the Tibetan calendar. On that day the monks, as in all Gelugba monasteries, put a huge picture of Buddha, a Tangga, measuring 50 meters square and embroidered on silk, in the sun. I was shown the place where it is spread out. On the right side of the valley, facing west, opposite the temple, a huge pavement of stone slabs, corresponding in size to the picture, stands up against the steep slope. While the picture is being spread out a tscham, a so-called mystery play shown in Plate LXIII is danced.

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I left the monastery amid driving snow and followed the little river of La Chu that flows past Lab gomba. We proceeded west from the place where the Tendo path comes in. It was a longitudinal valley and the lateral ravines led narrowly into it, for they had to saw through the steep declivities of the strata of sandstone in order to combine with the La Valley. The snow-covered valley walls stood like prison walls on either side. The La Chu Valley is very sparsely settled, one very seldom sees anyone. There is never a village to be found along the road, on the well-worn natural path that relentlessly makes for its goal. Only now and then I discovered a group of flat-roofed loam huts pressed close together up near the entrance to a ravine. Old ruins of houses looked down on us from steep cliffs, looking like fortresses, and the valley floor consisted of fields of stone fragments. The thing that impressed me most in the La Chu Valley was the loess which I found here. To be sure, there were not masses of it such as one is accustomed to seeing in China. It is only found on the southern slopes in larger piles - up to 6 meters. In China it is useful for agriculture. Here, too, the peasants' best fields are found on the loess.

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In the afternoon I came to the town of Lamda (Lambda, Lamdo) where the La Chu flows into the great Dre Chu, and for the second time I gazed at the Tibetan Yangtze Kiang, the Tung tien Ho of the Hsining people, the Dre Chu of the Tibetans. Emerald green waves and on top of them blocks of ice gleaming like diamonds floated past me, gurgling and murmuring. Again I was under the spell of this river, again it seemed as though the water were pulling and pushing me along. A chorus of sirens sang to me: "Hurry, hurry, /132/ like we do! Hurry to see the wonderland of Tibet, into which we have just entered from the dead waste land of the Tschang tang. Here begin the mysteries whose solution is worth a stake. Even we who are mighty streams spare no effort, no exertion to push our way into the magnificent country that shelters such untold mysteries."

Gigantic bends, sharp as a knife and abysmally deep, mark the course of the river into the mountains, so that at brief intervals one's

T 143 826 hooked noses of some tall Ngolok and the isolated cases of very vigorous growths of brownish-red beards in East Tibet. However, for the people of Lamda our conversation had a much more practical significance. No man wanted to marry the blond, blue-eyed girl, and no respectable girl the blue-eyed man, and when the girl went on a pilgrimage to the West she was constantly stopped and taken for a European.

T 485 778 Less than an hour's journey from Lamda there is a little village that /134/ hangs on the steep rib of rock like a bird-house, and here the floating ice of the Dre Chu piles up and forms an ice bridge connecting the two shores. While I was still in the Lab gomba territory I was told that this bridge had already given way and was washed away. But it was firm as a rock when I rode over it on February 23. The inhabitants of the village belong to a different Hoschunat from Lamda and put no obstacles in my way. They exact a small toll from everyone who uses their natural bridge and for this they point out the safest ice blocks. They had also marked the crossing with large round pebbles that were laid out like the links of a chain. Every pebble was painted red and had a letter scratched out on this background, so that the pebbles together formed words and the whole chain, devout prayers, uniting the two shores and making the bridge safe for the pious inhabitants. There were two of these prayer chains leading across the entire river. The shore was bordered with mounds of stone slabs all of which were covered with reliefs of prayers and Buddhas, tschorten, bunches of faggots flapping with scraps of sheep wool, and other symbols. In Tibetan eyes it is a very sacred spot because the local spirits each year cause the bridge to be formed. Our leaders as well as ourselves sang out the invocation to the gods and all the saints as long as we were on the ice!

C 133 [137] The ford was 3,650 meters above sea level and the ice of the river was 150 meters wide. There were scrub forests high up on the steep sides of the valley. Groups of spruce and ancient rhododendron furnished a faded green in between dark precipices. At each valley entrance the eye was met with new delights and wonders, glimpsed new snow-capped peaks that looked down on the clear greenish-blue Yangtze. Down in the valley the snow seldom lasts. Unless it has fallen in sheltered pockets, the rays of the sun soon lick everything clean (Plate XXI).

000 Eleven kilometers below the place where we forded the river we again left the Yangtze Valley and turned off at a sharp angle to the southwest. Toward the end the valley had grown ever narrower, the

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could no longer win over the lower current from the east, so that we ran into a thick sea of fog in which we could only with difficulty find our way. This occurred before we reached the first of the two passes that lead over to Dscherku. Added to that, there was almost a foot of snow which covered all the naka and nadung holes and pools of the mountains and which once more exhausted us. The pack animals fell constantly, had to be pulled up /138/ and repacked. One of the mules developed a heart weakness, staggered at first as though it were drunk or afflicted with the mountain sickness, and fell again and again after I had long since removed its load. It was the first victim of this winter journey. Its hour struck just before the caravan reached its first stopping place. It had formerly been such a playful creature who, of all the long-ears, could best kick with its hind legs. Now we had to leave it all by itself in order to rescue the others and ourselves from this hostile world. The poor animal stood upright, as though rooted to the spot and seemingly turned to stone, on that slope. We left it an old felt cover - when may a Tibetan passer-by have removed it from the animal? With great effort we turned the stiff animal so that the wind struck it from behind, then heartless humans that we were, we drove the others on into the driving storm and the fog. (1) 000

1. Two days later when I sent someone out to look for the animal, the felt blanket had been removed and the animal was dead. As proof, its long gray ears were laid before me.

The broad, gentle, rounded form of the mountain that we met high up made it even more difficult to orientate ourselves in the midst of clouds and whirling snow. If it had not been for the deep snow we might have thought that we had been transported back to the Tschang tang, so gentle were the slopes, so basin-shaped the valleys, so slight the ridges which were notched by passes, so seldom was primary rock visible in the masses of loose detritus. On a later visit to these mountains I noticed a few isolated slabs of rock that showed scratches and looked as though they had been transported for a more or less great distance through last year's snow or ice. The last moraines seem to have gone somewhat below 4,000 meters. Now, however, there is no spot far and wide where the snow lasts over a period of years, although some points reach over 5,000 meters. 133

After we had crossed a small longitudinal valley up there, which followed the direction of the stratification toward the southeast, we 481

C 487 had to cross a second pass, not much lower than the first. Shortly before that we passed through a small zone of limestone forming a chain of small cliffs, as they were so often to be found on the upper Hwang Ho and the Schoga Gol.

C 133 Whereas the Yangtze Valley and its nearest lateral ravines had pointed V-formations and typical aspects showing that they could only have been cut out by flowing water, this mountain again had only flat slopes and the valleys and ravines ended in wide hollows. Small moors and moraines lay in bulging masses on the slabs of sandstone and slate that were still steep, in fact almost vertical and made up the central mass of the mountain range.

At last the storm tore asunder the blanket of cloud around us. The tangled chaos of rocks which I had gazed at and marveled at even north of the Yangtze Kiang, stretched farther and farther to the south and southwest. There were peaks upon peaks and chains upon chains, but nowhere was there a human habitation to be seen. From the pass the way led down to the south between bare rubble slopes, along a little brook. Where the ground had thawed in the sun and there was no snow we were hemmed in by deep swamps. However, we finally again reached the thick plant covering; soon thereafter we found two black tents and grazing yaks. Two large valleys coming from the south and the west, converged in front of us. We turn a sharp corner and are suddenly in the midst of the houses of Dscherku ndo.

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CHAPTER XIV

Northern K'am

T 609 My reception in Dscherku ndo was more friendly than anywhere else in Tibet. All the inhabitants of the village, countless women, girls and children crowded around us, around my interpreter Tschang and around the big Tschang, and a joyous "Odyi, odyi!" came from a hundred lips. And those who did not cry "welcome" stuck out their tongues as far as they could, grinning in between. A strange man with a friendly face took the bridle of my horse and led me in front of a house that was prepared for us when news was received of our coming. Everybody laughed and greeted the people from Hsining. Hundreds of hands busily helped unload the packs and carry them into the house, so that there was nothing for my Chinese to do. They

6: Tafel--246 T-3 (1905-1908) 1914 AJI Tibet

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Plate XXX. /160B/

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Mountains south of the Yangtze Kiang. (At the bottom of the large ravine flows the Yangtze Kiang, at the sides of the valley the tall timbers reach beyond 4,000 meters.)

6: Tafel--247 T-3 (1905-1908) 1914 AJ1 Tibet AJ1
N.W.China AF13
Plate XXXI

/160C/

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Tschorten in the land of Ling-gose.

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The valley of the Yangtze Kiang in upper Dergi.

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6: Tafel--248 T-3 (1905-1908) 1914 AJ1 Tibet

Plate XXXII. /160D/ N.W.China AF13

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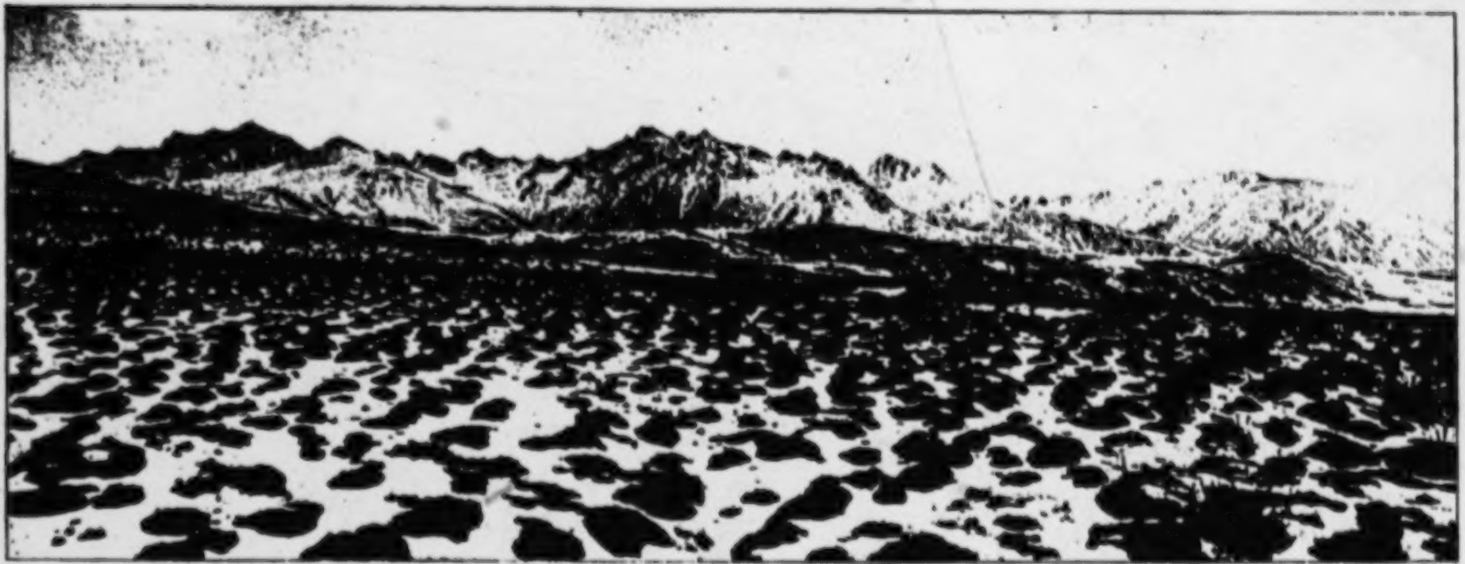

Ascent to the Chima tang. (In the foreground an old moraine, snow-covered naka holes and erratic blocks.)

road to Ka ts'a as the Tibetans wished, everything was in order again. T 123 The Hui hui sang and danced. The Chinese merchants came to me and congratulated me, Tsawu be hu sent me another khádar, and all the inhabitants made friendly faces and brought me all kinds of little presents. My departure became a minor folk festival. My landlord himself led my horse by the bridle, and as on the first day hundreds of voices shouted: "Odyi!" - "madyi!" - "odyi!" - "madyi!" Tears streamed down the face of many a maiden, a proof of what a firm footing my companions had gained here. Shortly before we broke up my men made a huge fire of juniper and thoroughly smoked themselves and their clothes because they had come in contact with Tibetan women. After that they felt they were again pure and immaculate.

When we left I had to speak seriously to Da Tschang and Ma "Thirty-six." Although Da Tschang had married a Chinese woman shortly before we left Hsining, he now wanted to take along a girl from Dscherku ndo. And "Thirty-six," too, although he was a father many times over and had, besides his first wife, taken his sister-in-law as his wife after the death of an elder brother, /163/ felt so drawn to a Tibetan woman that he thought he would not be able to leave her. But because I had flatly forbidden them to take along their mistresses, I unfortunately had, from now on, two of the most unruly servants imaginable in my company. Both of them were full of praise for Tibetan women, nomads as well as farm women. They said they were so friendly and handy and willing to help. Not a few Chinese give up their old home and move out to the cold steppes among the wildest kind of tribes, for the sake of the loving care of Tibetan women. Among Tibetans I often observed a beautiful family life, while in China living together has often deteriorated to the level of cold convention in which only egoism flourishes.

On the first day of the journey my own animals traveled without any burdens. Ula oxen and ula mules transported my belongings, and C 133 my companions rode on ula horses which the Nan tsien be hu furnished. At first we went south up the valley and after two hours passed the picturesque Tschanggu gomba and came to a wide area of limestone rock (1) which forms wild peaks and numerous eroded grottos of rock, washed out by the brook which flows toward Dacherku ndo. Since ancient times the imagination of the inhabitants has animated the

1. The strike was in the usual N 65° to 70° W, and carbon, judging from the rather abundant fossils.

C 133 strange shapes of the limestone with all kinds of gods and spirits and discovered caves of "virtue" and other playthings of the good spirits and titans. South of this limestone region there is a high valley several kilometers wide, the Ba tang, which leads gradually upward toward the southeast and has rich pasturage. Beyond it and enclosing it on the south there rises a new and very high chain of peaks consisting of slate and granite. Some of the peaks reach an absolute height of 6,000 meters. Thick walls of gravel and moraine from these mountains push into the broad longitudinal valley, indicating glaciers, although at present the last remnants of the ice age have disappeared from this whole region. There was still not a blade of green grass to be seen, but on the many pools one could hear the clucking of pairs of yellow ducks.

The Ba tang is the country of the two tribes Lada and Puchün. Here at 4,000 meters altitude, the bulk of the inhabitants are again tent nomads. Only a few monasteries and the princely seats are permanent structures. A few kilometers to the south of Dscherku ndo there were no more fields.

T 792 On the first day I reached the monastery of Betschin gomba, 25 kilometers from Dscherku ndo. A small house had been made ready for me for the night, but I preferred to sleep in my tent. A traveler whose attention has not been called to the monastery by his guides, can easily ride past Betschin gomba, it is so hidden among white limestone rocks. It is supposed to have 300 monks and two incarnations and belongs to the Nima sect. The main temple has a beautiful roof of gold; in the vicinity there are several hermitages.

T 485 On the next day the well-worn road led me past the houses of the Puchün be hu, thence across a pass a little less than 4,200 meters, and then down a moderately steep slope into a wooded valley (Plate XXIX) until we /164/ we came to the fields and stone houses of the village of Ka ts'a at 3,700 meters. On this trip I was already free of my escort, the Nan tsien be hu, and with it also of the Tibetan ula which had been promised me for a period of a month. The chiefs of Lada and Puchün sent only two khadar and the message that they did not know that ula had ever before been given strangers. Quite logically they refused to establish a precedent. However, they offered me the rental of an animal for each 50 kilograms of weight, as far as Ka ts'a, for which they charged one rupie per animal.

We all looked forward anxiously to my reception in the village of Ka ts'a which is already in the kingdom of Dergi. But it was a good reception because it was highly indifferent on the part of the Tibetans.

133 March 27. We followed the deep ravine of Ka ts'a farther down. On the edge of the brook there was only a narrow strip of winter ice. Palm catkins were in bloom and the buds of the trees that covered the steep slopes had begun to swell. Early spring had begun here. At night the minimum temperature was still -5°, but during the day the thermometers went up to as much above zero. Married couples were plowing on the narrow strips of fields farther down in the valley; two yak oxen were unwillingly pulling the clumsy hook-shaped plow under the vigorous beating of the powerful young women.

After we had passed a few villages and a small monastery we were again at the banks of the Yangtze Kiang. The valley was now still deeper than I had seen it up in Lamda and Tombu mda. It had here become a deep impassable gash in the rock through which a greenish-blue ribbon was winding its way between naked brown ribs of rock. The clear waves were entirely free of ice, only here and there deep in the valley the eye caught sight of a little white flake where the water dashed against cliffs or fell over boulders. From our great height the stream which at this point is over 700 kilometers from its source, looked quite insignificant. (Plate XXXI). One felt as though one could look into its heart. High above its present water-mark was the line of its summer rise. It then has four times as much water as it has now in early spring. There is of course water from the melting winter snow but this amounts to so little that it has no effect on the water level. At the end of March the west winds have diminished in force but they still prevailed and the southeast monsoon had not yet set in.

485 March 28. We spent the night in our tents which we had set up beside a village. The inhabitants were used to passing travelers and did not look at us very closely so that they had nothing to criticize. They demanded a quarter rupee from us for using the campsite, for dry argol and a huge pile of straw which my animals cleaned up during the night. Although in Dergi as well as in Nan tsien only coined money is accepted, there is no small change, and thus for payments of amounts less than a rupee, a piece of silver is cut up, and one pays literally a fourth, a third or half a rupee.

491 The night was cloudy and in the morning thick, wet snow covered us. When it cleared at eight o'clock we quickly packed up and, after an exhausting ride at full speed up hill and down dale, it was two o'clock when we reached the ferry across the Yangtze Kiang which is supposed to be called Tschomdo and where the big road crosses over to the left bank. There are two huts of loam standing

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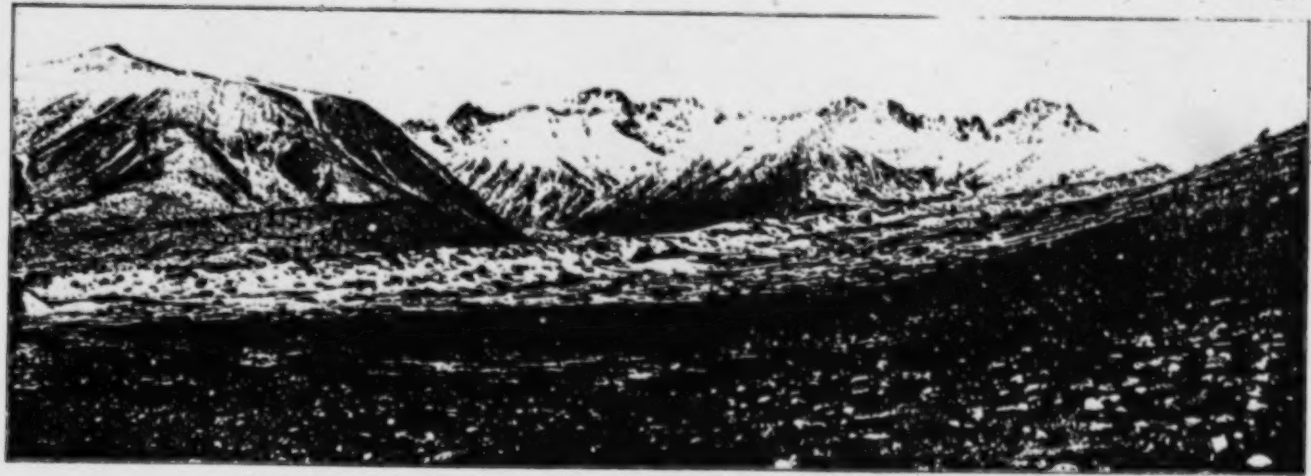
6: Tafel--258 T-3 (1905-1908) 1914 AJ1 Tibet

N.W.China AF13

Plate XXXIII.

/168A/



Remnants of a moraine south of the Muri La. (4,100 meters above sea level.)

6: Tafel--261 T-3 (1905-1908) 1914 AJ1 Tibet

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Plate XXXVI.

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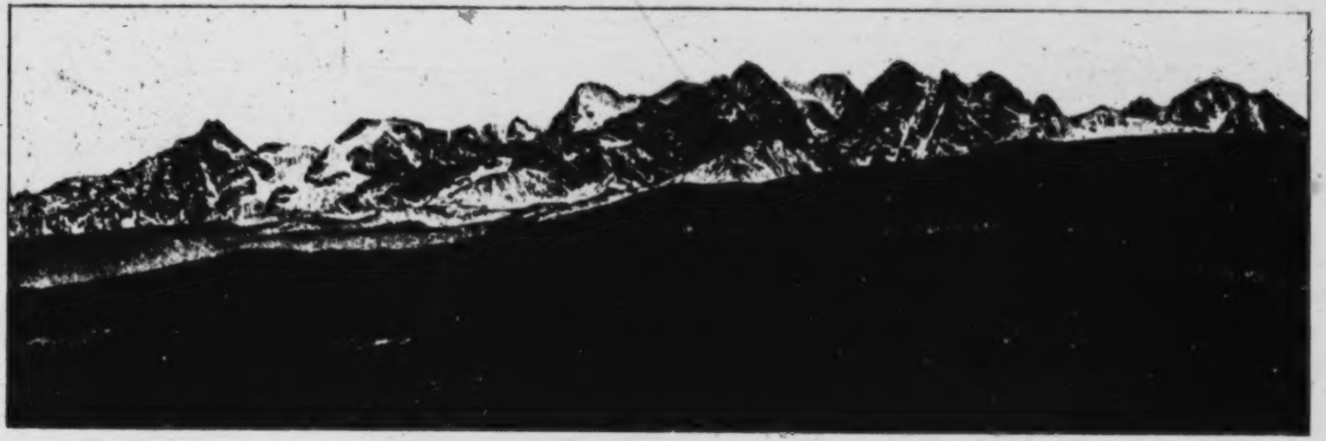

/168D/

Peaks and glaciers near Rung wa tsun.

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Even the imperial telegraph line led over the bleak saddle of 206
the Dschedo la and its 4,390-meter altitude. (1) The line had just been completed as far as Ba tang. My Hsining men who had never before seen a telegraph line had to conduct a detailed investigation. Of course, they had long since heard that one could send a whole letter over the wires, but they had the most adventuresome ideas as to how this was done. They wanted to cut the wire and see what the hollow space inside looked like. Shortly after I had dissuaded them from this wild idea we met a telegraph sentry consisting of six men strong. They were looking for a damaged wire because the service had been interrupted the day before. It seemed a miracle to me that one could telegraph at all at the time because hardly any of the insulators on the poles were intact. The Tibetans regarded them as a particularly suitable target for their guns as well as for their beloved stone slings.

Beyond the Dschedo Pass the eye first of all falls on bare rocky 133
ridges and on broad, planed-out and dry ravine bottoms. The peaks in the vicinity of the pass rise above 5,000 meters. They are all still below the boundary of perpetual snow and one could discover on them only scattered white spots. However, when one descends the steep, uneven military road which was paved many years ago, and when one has turned the corner and reached an eroded ravine bottom, then suddenly gigantic fields of perpetual snow sparkle in the south (Plate XLVI). In front of these in the depths nestles the Dschedo Valley with the little village of Dschedo, an important stopping place for the night for people coming from below. Before one 137
reaches this town one crosses the wide rhododendron zone /202/ which, with its large white and pink blossoms, extends down from 4,500 to 3,800 meters. The large blossoms were just opening and the steep mountain slopes sometimes formed a vertiable sea of blossoms. Long before one reaches Dschedo one is within the boundary of mountain forests, and the amount of moisture which the monsoon must unload in these border mountains has caused an almost impenetrable jungle to develop on both sides of the valley, on the northern as well as southern slopes.

Near Dschedo the ravine which is used by the road abandons its 000
southeasterly direction and turns due east, and now all at once there

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1. Kreitner-Szechenyi 4,499 meters; Rockhill 4,365 meters (14,320 feet); Gill 4,425 meters (14,515 feet; War office map 15,000 feet.

6: Tafel--463 T-3 (1905-1908) 1914 All Tibet A31

N.W. China AF13

/facing p. 288/ Plate LXVI (Section 1)

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The great bend in the Me Chu (Hwang Ho) in Dsorgi (East Tibet). /from left to right--Translator/: South where the Ga Chu, the White River flows in. SW 250°. West. Tschiaoko country.

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Residence of the Khoshot King at the foot of the rocks

Labrang gomba in the Valley of the Sang Chu in Amdo, district of Hsün hoa ting. (View from the east.)

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6: Tafel--464 T-3 (1905-1908) 1914 AJ1 Tibet AJ1

Plate LXVI (Section 2) /facing p. 288/ N.W. China AF13

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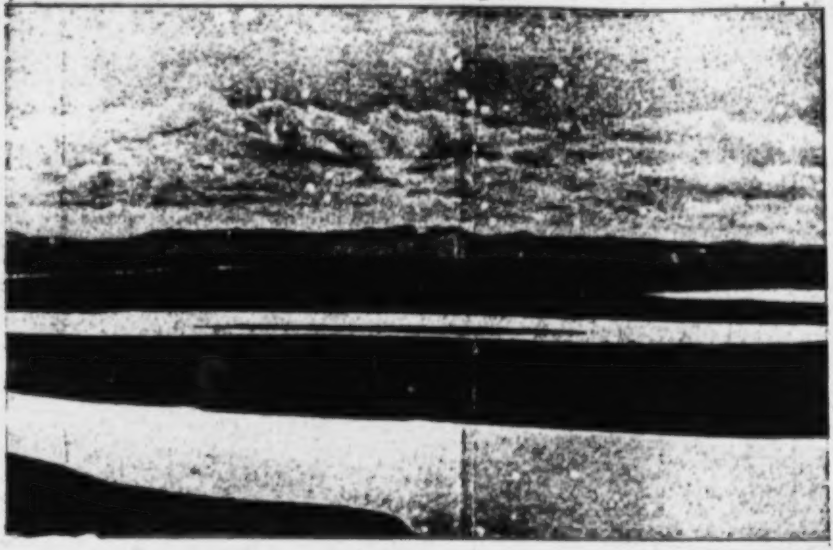

(Captions on section 1)

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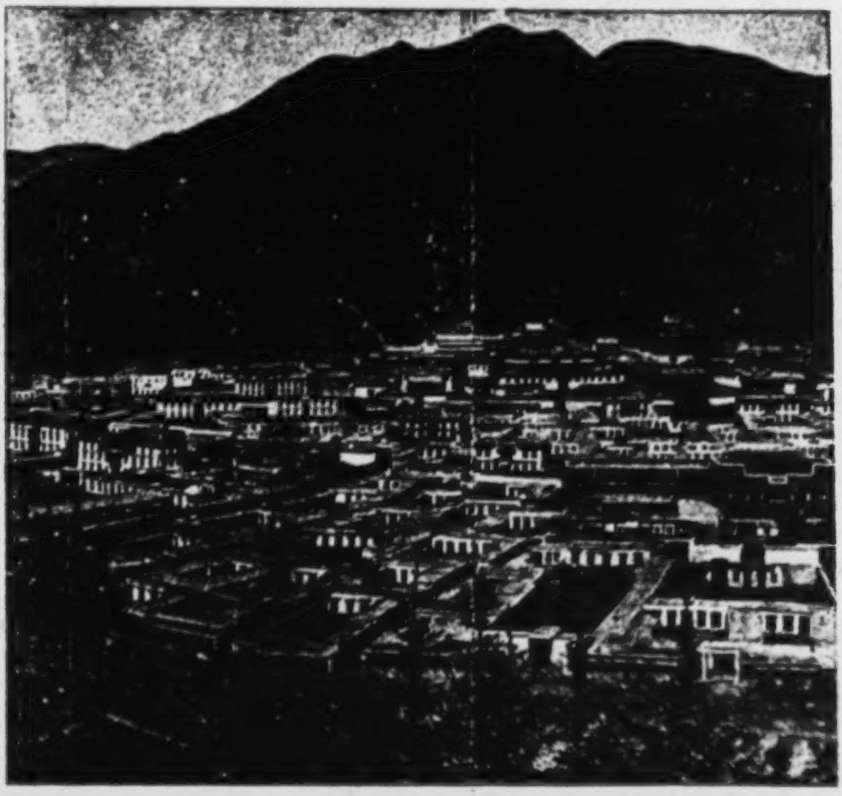

6: Tafel--465 T-3 (1905-1908) 1914 AJ1 Tibet AJ1
N.W. China AF13

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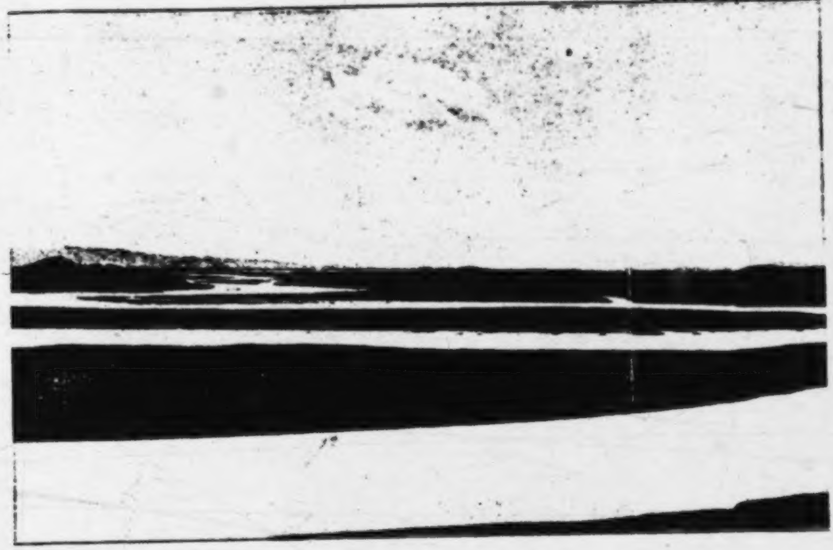

Plate LXVI (Section 3) /facing p. 288/
(Captions on section 1)

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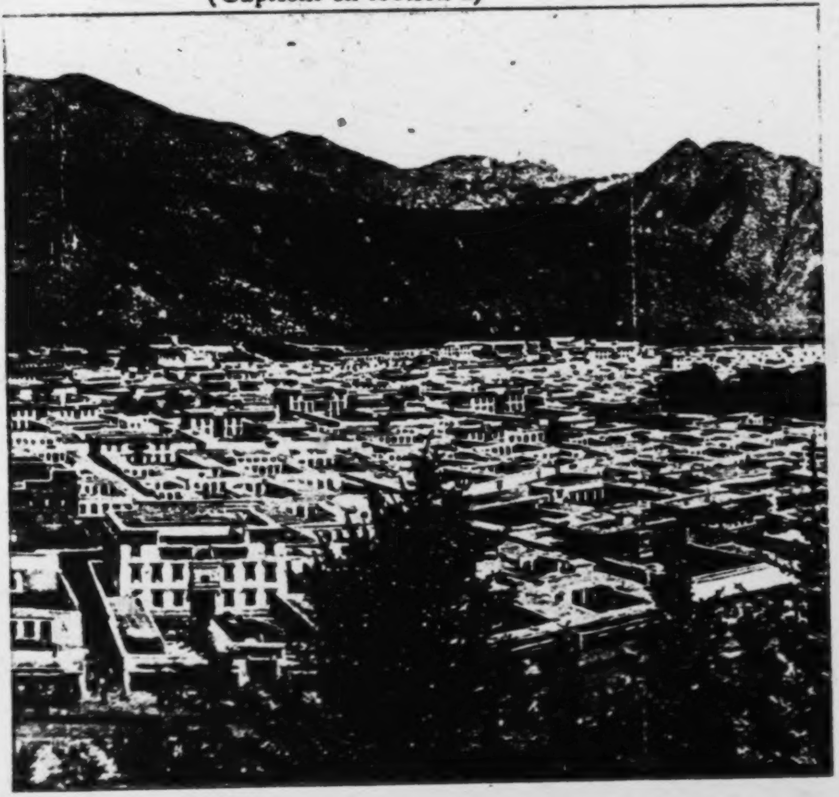

6: Tafel--466 T-3 (1905-1908) 1914 AJ1 Tibet AJ1

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Plate LXVI.
(Section 4)

/facing p. 288/

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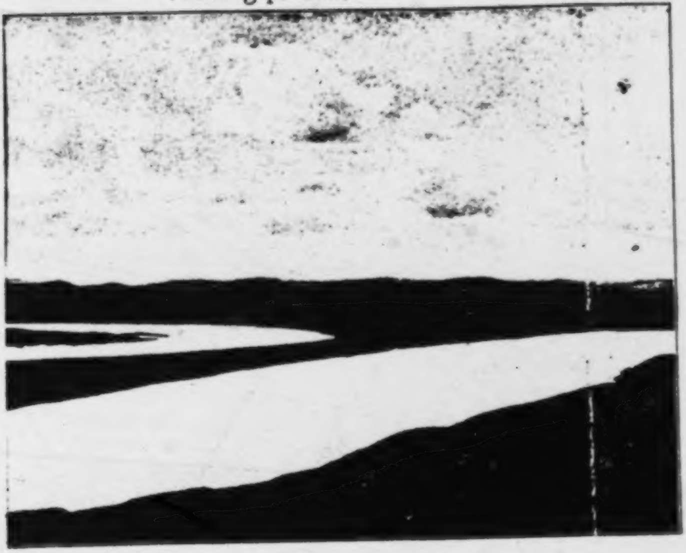

(Captions on section 1)

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Market
place
of the
monestary

T 392 361 T 342 old roamed around the houses and tents in which, besides the monks, there were also a few old and sick people living. South of the monastery is the rgensa, the winter abode of the Läwa nomads. However, in summer the winter houses of this tribe are not recognizable as houses. All the wood that is needed for the roof or the walls in building, is buried in the earth in spring, so that strangers cannot use it as firewood. Here wood for building is already considered precious for it must be dragged a three days' journey into this region which is poor in wood, and besides that it must be bought from the neighboring tribe. (1)

> 1. I once also saw the winter houses in the territory of the Tschirchama tribe. There, too, all the wooden parts were buried in the ground during the summer. But the houses had stone socles one-half to one meter high, which almost looked like the walls of an ancient city that had been destroyed. W. Filchner erroneously called them a fortress. It was only a rgensa, the Shdyaru rgensa. He was also somewhat mistaken about the forms as they are pictured on p. 390 of the book: Rätsel des Ma Chu. Regular forms never occur.

T 501 Rao gomba, not very famous as a sanctuary, is important because of its ferry across the Me Chu. A few steps from the scattered houses of the monks lies a well-built ferry boat constructed in the well-known box shape of North China and the Hwang Ho boatmen. We made use of this on September 2, after I had stored all dispensible objects, all my chests, in the house of a priest. Under the C 487 133 guidance of an old Läwa Tibetan who looked as emanciated as a mummy, I went south with only the tsung ye, one of the Tschang La guides, Brdyal and Tschemotscho (Plate LXIX). Our horses pulled the box boat across the Me Chu, and were obliged to swim the entire width of the river. The water is almost stagnant. On the other side we quickly saddled our horses and without much ado or many detours our guide led us across a swamp two kilometers wide, on the northern shore of which live the Gedu nomads and on the southern, the Chamä. Later we went for 7 kilometers straight as a die through hilly country to the south; a little farther to the west lay the original monastery of the Chamä. The only tall growth consisted of rhubarb bushes with blossom stalks three meters high. They belong to a species that looks like the rheum tanguticum. The bulbs are seldom

6: Tafel--468 T-3 (1905-1908) 1914 AJ1 Tibet AJ1

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dug out here because there is no possibility of drying them without having the sun reach them. Isolated high rows of dunes overgrown with grass stood close beside bottomless swamps. They testify to the winter condition of the region when one dust column after another whirls across the ice-covered surfaces. In the afternoon the old man led us through the Botsong Chu, a swamp lake three kilometers wide and to me unknown, but in any case of very great length. Large patches of it consisted of completely open water and in between were reeds, sedge grasses and floating water plants. The air was +9.5°, but in spite of this the temperature of the water was /Plate LXVII, (sections 1, 2, 3, and 4) appears between pp. 289 and 290 in the original text./ /290/ +14.5°, as a result of the strong radiation on the flat basin. Thus, it did not seem at all uncomfortable that before we entered the lake we had, at the advice of our guide, tied all our important belongings, instruments, fire implements, etc., into our trousers and wound the latter around our heads and then, with the exception of this head covering, entered the water as God made us, pulling our horses along or, in very deep places, letting ourselves be drawn by the horses' tails. Evening saw us happy, albeit with some teeth-chattering, near the tents of the Chama kadya where we lay down to sleep. Here the black tents always stood in groups of about a dozen forming a large circle into which at night the many sheep and the less numerous yaks were driven (Plate LXV). C 487 133

The night temperature had been +3° and a ride south of only 20 kilometers (aerial distance) brought us the next morning to So tsong gomba, the monastery of the Tangsker Tibetans. Close beside the scattered houses of the monastery flowed the Hwang Ho. T 361 792

It was the first radiantly beautiful day. In the morning for some time thick veils of fog had covered the hills. But when we rounded the last corner the mysterious stream lay open before us. I trembled with joy and excitement over the mighty panorama, which to see had cost me so many new efforts, but which I could now enjoy and absorb to the fullest extent. C 133

In gigantic curves the muddy and here already yellowish-gray waves of the "Yellow River," sunk in alluvions, came toward us from some distant mountain range far to the southwest (at 250° according to the magnetic needle), only to take on quite suddenly now the direction followed by a broad tributary coming from the south-southeast and, together with the clear waters of this stream, to turn toward the northwest.

Just at the crown of the turn lies the monastery So tsong gomba

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which maintains a ferry across the Hwang Ho and its large tributary, the Ga Chu (White River). Nowhere in the vicinity of this important turning point in which the surface of the river is 3,430 meters above sea level, are there higher mountains and never before had I had such a broad and magnificent view over the Ma Chu. For me it was the most memorable point on the 4,470 kilometer-long giant river of which, in the course of the years, I had seen 2,300 kilometers with my own eyes and put a great deal of it on paper. (1) In the east,

1. The bend, according to my observations, lies 102° 15' 36" east of Greenwich and at 33° 33', 30" north latitude.

on the outer side of the crown, the river runs against a terrace on which the monastery is situated at a height of 3,440 meters and from which I took my pictures (Plate LXVI); behind it moderately high grass hills rise up. The Hwang Ho plain is 5 kilometers wide in the middle, but at the confluence and the turning point it is 10 kilometers wide. The river is on an average 360 meters wide, 4 meters deep and has 1.3 meters speed on the surface. Only far off at the horizon to the south and west-southwest was I able to distinguish a few peaks which were snow-covered and which loomed up far above the general height of the mountains which were 4,000 or 4,200 meters. The plain was uninhabited at the time of my visit. However, in winter /291/ the Tangsker live south of the confluence of the Ma Chu and the Ga Chu. I could see the traces of their buried winter houses not far from the shore. From So tsong gomba up to the boundary of the Tschirchama territory (600-700 families) one figures a good day's ride on horseback (50 kilometers), while to the Ngaba country it takes three days, which equal six to eight yak days. Thus in 1904 during our flight we were not too far from this crown in the river, without, however, having any idea of the course of the river and its actual turning point. (1) On the left bank of the Ma Chu, that is,

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1. In W. Filchner's sheet maps 1:75,000 of our joint Tibetan journey in 1904, published in Berlin in 1913, the big bend in the Hwang Ho according to the d'Ollone map sketches and my reports, drawn in, but I think that the upper part of the river is pushed too far north. I cannot agree to the fact that the point at 33° 52' 36" northern latitude, which our countryman Professor

Futterer (Futterer, Durch Asien, Vol. I, p. 383) measured, is not taken into consideration at all, or rather is simply moved 25' north on Filchner's route map. I rather incline toward the assumption that because of some oversight in the preparation of Filchner's maps the entire upper course of his river has been given a wrong direction and that thus his route opposite Futterer's spot happened to get too far north by at least 40 kilometers.

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inside the crown, is the land of the Chiao-ko tribe which extends a few days' journey upward along the river. I could with the naked eye distinguish several groups of tents belonging to this tribe between the low hills which rise there out of the gravelly sand of the river plain. In this direction the mountains increase in height surprisingly little and only at 80-90 kilometers I saw three snowy peaks on the horizon. Farther west from Chiao-ko sits the Ngula Tharde (lha rde) tribe which is said to number 20,000 (but I think 10,000 is probably enough). It is under the rule of a high lama of the Labrang monastery. The lama administrator is newly appointed every three years by his superior monastery board. On the west the territory belonging to the tribe seems to border on that of the Ngolok-Ardschün which numbers 2,600 families and was at the time ruled by a female rgyalbo, that is, a queen. (2) Ngolok-Rensin-hsiang (600 families) lies farther

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2. In Chinese Ngolok is pronounced Go lo k'o. The name stems from "ngo logpa" meaning "the face," to make one's glance free, that is, to rebel. In 1750 the Ardschun rgyalbo for the first time received a diploma from the Manchurian government. But even then it was vainly hoped that thereby the tribes would desist from their marauding. The family of the Ardschün kings was for a long time regarded as ruler of all Ngolok. But in recent times individual tribes have divided more and more and made themselves independent of each other.

upstream on the Hwang Ho and since 1905 more on the left bank than on the right. Still farther upstream on the Hwang Ho is the land of the Ngolok Hantsien Doba with 2,000 families. South of the Hantsien Doba and hostile to them for many years already lie the

T 782 and a few long: Lama ihasdla sum tschiu. . . ! But when we were brewing tea the Lãwa guide invoked the Amne Machin, the Schar Dong re and a few other mountain giants, which here, also, still play a more important role than the Buddhas.

C 136 The region around the big bend of the Hwang Ho is surprisingly poor in game. It was only seldom that I saw in the distance on a mountain slope a Dseren antelope with delicate limbs, but never on this entire trip did I see traces of a Kyang (Equus hemionus), and it seemed as though these animals had been extinct for a long time already on the right side of the Yellow River. Bears are said still to be represented by the Ursus Tibetanus. The only things that frequently crossed our path were hares and marmots as well as a few partridges /Wildhühner/ and pheasants. C 133 All during the summer months and the wet season of the year the Hwang Ho and its tributaries have filled every valley so completely with puddles and everywhere accumulated so much water underground that the heights stand out like islands in an endless swamp. However, the individual groups of islands are so thickly populated by nomads and their herds that there is little room left for larger wild game. Up here we find the strange giant yellow river, the Hwang Ho, flowing on the surface of broad plains into which, farther down near Rardscha gomba and, even more, near the Tala, near Hoka and Kabatalen, it has dug a deep channel. In its entire gigantic length the Yellow River is one of the most changeable and strange large rivers of the earth, and appears as one of the youngest as far as its position and character are concerned. My readers all know that it was only around 1852 that the river shifted its mouth from the southern part of the Shantung province to the Bay of Chih li in the north, and again and again the Hwang Ho has in historical /295/ times found another course through the lowland of China, again and again selected a new bed and filled with terror an endless number of people. Between the provinces of Shansi and Shensi the red horizontal clay strata of the late Pliocene Age which can be seen high above its present bed (see Vol. I, p. 127), show that even in a late geological period it did not flow through there at all, and that thus the entire section of the Yellow River between Ordos and the Wei Ho Valley, the entire Ordos loop, must have been formed so to speak under the eyes of man. The section of the river between its entrance into the kingdom of the 18 provinces near Kue de - Hsün hoa ting and its confluence with the Hsining rivers, is also youthful and full of storm and stress. There the Hwang Ho river-bed is still narrow, the channel not very deep, although the rocks are not hard and offer little resistance. The configuration of the Hwang Ho in its upper part from its source to the bend and at the Tibetan bend itself gives the appearance as though, at the time of extensive glaciers in Tibet or during the period of large accumulations of erratic boulders and the formation of gravel, the waters had not flowed north, but south, toward Szechwan. The uppermost part of the Ma Chu-Hwang Ho looks like a part of the Yangtze Kiang. But one wonders what the drainage was like on this part of the earth's surface before the gravel and clay masses were stratified and embedded in the valleys. The old Hwang Ho probably drained only the Koko Nor territory and then flowed rather directly into the channel of the Wei Ho and into the region of Hsining fu which was already in existence before that. The upper part of the present-day Ma Chu-Hwang Ho, from its source up to the present-day Tibetan bend, may even at that time have been a tributary of the Yangtze Kiang. The deposit of masses of gravel on the eastern edge of Tibet is, to be sure, so tremendous that this assertion can be made only with the greatest caution, for our knowledge of these regions suffices for only an inadequate summary of present-day geographical conditions. C 133

I rested another whole day near Rao gomba in order to care for my horses. There were still five of them very lame as a result of the many swamp holes and ditches, and all of them needed rest very badly. Wang Tsung ye stamped his foot like a child when in the morning I gave the order not to saddle the animals but to drive them to pasture. But my good angel did not cause me to change my mind in spite of the young man's curses; it was probably also he who caused the many lame horses in the first place. But we were not aware of its guardianship until the next day. 000

The road from Rao gomba to Tao tschou led due north for an entire day's ride as far as Lhamo se and from there three full days in a northeasterly direction. At first one crosses a swampy valley country 15 kilometers wide, the plain of the Me Chu which, however, soon turns its large curves in a westerly direction. Then one follows the nDam Chu, a tributary of the Me Chu upstream. After one has crossed it at the rDo ro ford - the little river was there 18 meters wide and 1. 3 meters deep and the ford is stony, as its name implies - one reaches the plain of Nima long or Nima rung. This region belongs to the 12-Bu tribe of Radang with not quite 200 families. It is excellent pasture land, very seldom do low waves of hills rise out of its swampy surface. /296/ The Obo-kopje is like a landmark behind us C 487 T [B19] C 133

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and on its southern slope the priests of Rao gomba have their shabby huts of loam. The northern part of the Nima long is bordered by a long fold of chalk which, characterized by countless steep, white rocks, can be recognized hundreds of kilometers in a N 55° W direction and borders the horizon in the northern part of Tschang La. A great many unusual mountain formations has stirred the imagination of the inhabitants, has caused legends to arise and erected thrones to the gods. In the Radang country the Ani lhakang (pronounced: el hagu) is conspicuous. It lies on the border of Radang and Sare and roughly has an altitude of 4,500 meters. North of it is the beginning of the territory of the notorious Tāwo kiang ts'a and the feudal state of the Dshoni tu se.

C T 726

We had just crossed the rDo ro ford and were busy putting on our boots and trousers when three horsemen, mounted on dashing steeds, came toward us, a gentleman, a priest, and a servant. The servant led a pack horse by its bridle, which carried a few blankets, as well as a tea pot, cooking pot and flour bag. The gentleman had pulled a good-looking hat made of lynx skin down over his ears and wore a blue pulo cloak with small white crosses on it and with a 20 centimeter wide border of Yün nan leopard skins; his left ear-lobe was pulled down with a heavy gold ring to such an extant that he had to have a small leather strap over the outer part of the ear to carry the weight. Tschemotscho recognized the gentleman and called to him after he had already ridden past, silently and with a sinister look. It was the bon of Chamā, and he was coming from the military encampment of Tāwo Kiang ts'a. All the rulers of the 12-Bu had been summoned by the Sung pan officer to help end the war. Two days ago the men from Tāwo kiang ts'a had given in and the bon was now on his way home. However, those from Radang had, after settlement of the Tāwo affair, demanded 400 taels from the Lanchow hsie tai. This colonel had permitted his soldiers to tear the wood for their fires from the walls and roofs of the Radang winter houses, instead of looking for it in the woods. The hsie tai had laughed at the demand of the men from Radang and so the 280 warriors of the little tribe had set out yesterday, had attacked the 3,000 Kansu and Szechwan soldiers and had driven them behind the massive stone walls of their camp with stone slings, whips and matchlocks. After this bold attack they had taken the horses away from the cavalry. With 89 horses as booty they returned home to their tents which lay on the Nima long, east of the little lake of Mou Ts'o. However, we did not learn all these details immediately from the Bon. All we heard as we rode

T C 726

above, from the open, treeless steppe and not by the direct route into the ravines of Tāwo. But since, at the initial advance, 15 horsemen of the front detachment had fallen into ambush and were partly cut down and partly captured, the action during the rest of the summer months consisted only of threats until finally, with the help of the neighboring chieftains, and only because of the presence of troops, it was sche tsing schuo h'au leao, i.e., it was settled with talk. The Tāwo agreed to a partial disarmament and gave up 100 swords, 50 fork guns and 50 lances, but were permitted to keep the goods amounting to 12,000 ounces of silver which they had stolen from the Chinese merchants and on account of which the summons had come from Lanchow; there was not one single decisive action during the long summer on the part of an expedition that was almost as large as that of the English who marched into Lhasa in 1904. My escort had counted on getting new food supplies among their comrades. Behind my back they had traded in my supplies at Rao gomba so that only two rations were left. But the camp was itself short of rations because of the Radang incident. For everybody /300/ had thought the war was over and they would soon go home. No one had sent supplementary supplies. Thus my heroes nowhere found a merciful hand that would replace the rice and tsamba they had sold. However, because of the scant supplies I, too, unfortunately, suffered and was forced to cover the final distance at top speed. Within two hours we were again mounted and after three days in the saddle from morning till night we reached Tao tschou.

C 133 487

Our first day's ride lasted until far into the night and took us over a plateau, through valley pockets and across flat passes where the waters that run eastward through the Tāwo Kiang ts'a territory, separate from those that flow north to the Tao Ho. Broad areas of steeply bent gray-green sandstone and slate with an east-west strike continued to interchange with wedged-in patches of crumbled white calcium carbonate; above this in many places there was a horizontal layer of hard, red Nagelfluh. The highest point we reached shortly before twilight at a pass of 3,765 meters. The mountain ridges here have an average height of somewhat over 4,000 meters. It was all good pasture land. For the time being there was no more forest from Kosaniba and the Chinese encampment on.

On the second day we had to go up and down steep inclines across the source waters of the Tao Ho tributaries and again climb a watershed of 3,800 meters. But by noon we reached a narrow wood ravine and entered the valley of the Wong Chu which breaks through the

C ●133 487 mountain masses with many bends but in a east-northeast direction and for a long time flows almost parallel to the upper Tao ho. We had to ride through the rocky stream-bed 18 times and each time the underside of the packs dragged in the water.

On the first day we had still seen a few dozen nomad tents, on the second day we did not see any inhabitants anywhere and met only a supply- and munitions-train of the Kansu troops. When the escort spied us from afar they greeted us with a senseless and, fortunately, poorly-aimed gun salvo. It was only on the third day after we had traveled a few hours that we came to the upper-most Tibetan settlement, the little village of Dotsa, which lies at an altitude of 2,900 T 241 meters and belongs to the community of rDiadung. Here wild oats and some barley was planted in the valley bottom beside low, one-story houses. The fields in the 200-meter-wide valley floor are still extremely poor and stony. Every other year they must lie fallow. An hour farther down - the forest valley meanwhile widened to 400-500 meters - the fields became better and to the right and left of the broad Wong Chu, barley and turnips were being harvested, and women and men were busy loading their barley and even a little wheat on yak and transporting it to the scattered farms and into the large village of Merema where the sheaves are stacked on high, airy T 231 trestles next to their houses to dry, just as in Kin tschuan. Already at the first houses there were again grunting pigs, representatives of the small race of domestic pigs with light hair and pointed ears which T 301 302 all the farmers of southeastern Tibet also raise. Here, too, the men went out to the fields with their swords hanging on their belts and the women wore back-pendants that hung down to below their waist, similar to those of nomad women. At the temples they wear their hair braided, and into the braids on either side is tied a shell that has been filed down to make a firm ring, /301/ or a bronze ring set with red corals, and the two rings are joined with a piece of cloth which among the wealthy is studded with brass shells and corals (see Fig. 15). The hair at the crown of the head is braided into a thick mesh and is wound on a piece of leather 10 centimeters wide, which runs down the middle of the back and at the bottom is decorated with many small brass buttons.

T 792 At noon the large Gelugba monastery of Gaser gomba appeared on the left side of the Wong Chu; the Chinese also call it simply Gawo se or Gomba se. (Plate LXVIII). It is the chief monastery of the region and is supposed to have two huo fo ye, both of whom were, however, "in the process of exchange" at the time, and, as I was told, had just a year and a half before "died and had not yet been found again." T 192 The buildings of the monastery as well as a great many lay estates were already conspicuous from a distance because of their neatness and their fresh colors. Many lay houses were in the process of being built as a result of a war which had raged here two years before during which the monastery and village had been burned. But the difficult war times had already been forgotten. The loam houses, mostly one-storied, had been rapidly restored and the farmers on their fallow fields sang gay tunes behind their plows in front of which puffed vigorous yak bastards with Chinese neck yokes. On a meadow in front of the monastery the akka youth were playing with a T [526] large leather ball which they kicked with their feet and caught with their heads. Many wore full beards but there were also many with T [64] goiters and their faces looked broader than those of other Tibetans. However, the inhabitants claim to be genuine Tibetans; Chinese and Mohammedans are tolerated only as traders. On the road near the monastery I met a walled encampment in which 100 horsemen were C 487 preparing to travel up the valley. It was a halting place, the riders belonged to the hsie tai near Kosaniba and were obliged to cover his path of advance and retreat. Below the monastery the road left the comfortable valley course; we again crossed the forest-covered mountains by way of a 3,360 meter high pass. Thereupon we entered a narrow wooded valley which did not end until late afternoon when a large river with clear green waves flowed directly across our path. C 133 Before me the Tao Ho, the Tibetan Lö Chu, wound through the mountains between precipitous walls. Meanwhile I had come down to 2,700 meters. In the autumn the river is here 90 and 100 meters wide, with a middle depth of 2.10 meters and a velocity of 1.7 meters. Judging by the shore marks, I should say that there is twice as much water in summer. But here in Kansu there had been dry weather for weeks already. This river, also, like the Han Kiang in the Tsinling mountain range and like the Dre Chu in K'am, follows the course of the narrow reef of vertical layers of slate; it has dug such a narrow circuitous bed into this, that up and down it is visible for only a few hundred meters; as though like a child wanting to play hide-and-seek, it immediately slips behind tall theater wings which give absolutely no indication as to the direction in which the valley continues.

C 133 One crosses the Tao Ho at Putanga, a Tibetan bit of land with few Chinese families. T [501] There a box-shaped vessel is tied to a rope which is stretched across the river. On the opposite, the left bank of

•133 the river, a great deal of loess mixed with broken stones can immediately be seen, and for the first time since I left Hsining fu I again saw a cart. /302/ (1) The higher up I climbed on the other
361 side, the purer became the loess masses. At Lao tschai ni, a Chinese town, 3,015 meters high, I had already reached a typical loess village and caves in the loess. Four kilometers farther and only 250 meters lower lies the commercial city of Tao tschou, the Tibetan Batse.

It was nine o'clock and had grown dark when, with great effort and exertion, I reached the city, and ör gen, the second night watch was long past before the tormented tsung ye who in the darkness had
[797] lost the path, finally discovered me. Long before that, the friendly members of the Christian and Missionary Alliance, the Americans Mr. and Mrs. Ruhl and Mr. and Mrs. Simpson, had found me and invited me to supper in their new home in which the former couple
000 did Tibetan missionary work and the latter, Chinese. My stay in the border city lasted from September 9 to 23 and was made pleasant by the hospitality of the missionaries who did not rest until, on the third day, I moved out of my grimy hotel and into their home outside the city. Meanwhile I discharged the caravan, paid off the servants and escort and presented the tormented tsung ye and his men with a mule and three horses, besides money and food supplies. I had never before on any of my journeys had such apt companions who were so willing to serve me. When the tsung ye said farewell his whole face lighted up and I, too, felt his relief over the fact that, in spite of my vagaries, he was able to deliver me safely at the appointed place. I sold two more mules here and only Brdyal and six animals remained. A team /hang/ of mules brought the large pieces of baggage to my depository in Lanchow fu, and my time was occupied arranging my diaries and developing my photographic plates. Only a few more than 400 plates turned out successfully on the last journey, one and one-half boxes (420 plates) were destroyed by water, while 280, all of those taken with the polyscope camera, were spoiled because they

[493] 1. The boundary marking the distribution of the North Chinese two-wheel horse cart extends from here along the mountainous country I had just traversed eastward and keeps to the north of the Tsing ling pass in the North Chinese loess country. It is unknown in all of Szechwan and Kweichow, Hunan and in large parts of Hupeh.

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T 712 difficulty, inasmuch as the wall exists only on the main road and in the valley and not on the flat heights where it was years ago probably already "gesqueezt."

T 361 Five kilometers inside the Gambo t'a ngan men gate lie the remains of Niu tu tsch'eng, an allegedly Mongolian city (Tu ku hun?) which, in spite of its triangular form, looked to me like a concentration camp behind the walls. Due west of this and south of our gate lies the village and gate of Gu ör tschan, Professor Futterer's Gudä with the road which follows the Tao Ho Valley upwards. In 1899 Chief Bailiff Holderer and Professor Futterer passed through there on their memorable journey, after they had been attacked and robbed a few days before by the Laringo Tibetans near the Hsin se monastery. T 797 Through the same gate not many years before, the two South-Germans set out on their boldest journey through Tibet; there in 1892 Miss Annie Taylor escaped with a Lhasa servant woman and her husband and several /309/ other Mohammedan helpers from the protective strength of the Chinese and, dressed as an Ani, heedless of all dangers, with her Bible in her hand, rode straight across the Ngolok country toward Lhasa, until the company were recognized and held up in the Nag tschü ka land 12 days before reaching their goal. However, Miss Annie Taylor has to this day failed to reach her goal which was to preach the gospel in Lhasa. At that time she was somewhat ungently pushed off via Ta tsien lu by the Tibetans, and after that waited on the Indian side for the opening of the forbidden land. Even though most of us cannot understand this vehement missionary zeal, everyone who knows the conditions must have great respect for this ride undertaken by a woman. Without looking to the right or the left, the protestant Ani rode across the endless steppes of the fanatical lamas.

T 563 In early times there were Chinese settlements hours distant from the boundaries of the walls. Today, however, these are often preserved in name only. Thus, for example, as I rode on I met a Diakar gomba, that is, a "monastery belonging to the Chinese city" where today for miles around no Chinese dares to settle and at best may travel about as a small trader.

C 133 The mountains forming the watershed between the upper Tao Ho Valley and the Ho tschou River are nowhere very impressively high. The passes reach an average of 3,000-3,300 meters. Only the chain of the Tai tse Shan which I first saw in December 1905 from Ho tschou, and its southeastern continuation, the chain of Hoa Shan which

C 133 the Tao Ho cuts through from south to north on its course beyond Min
tschou, reach a magnificent height.

T 241 Tibetan agriculture in Amdo is also divided into established culti-
vation of fields and nomadic animal husbandry, but the former pre-
T dominates. Whereas the pastureland of the nomads is communally
[423] owned by the tribe, the farmers, the villagers, own their fields or are
at least gonyog, half-farmers, tenants on monastery lands. One sees
irrigation ditches in the countless valleys, large and small. There
are few forests. Long ago man burned them down and confined him-
self to the small parcels that today remain, in order to gain land for
pastures. However, today there are large stretches of land in Amdo
which are put to poor use because here, too, preparation of hay is
unknown and the established farmers have only few cattle and only
T work horses which they drive to pasture and tend near the settlements.
[233] On the higher passes and mountains I saw a few miserable groups of
tents. Their inhabitants wandered with their herds of sheep. These
shepherds were the servants of the important personages and monas-
teries and traveled to certain places at certain times of the year.
They possess weapons and always keep together so that they can at
any time stand up against smaller robber bands. At times agriculture
must have reached much higher up in Amdo than it does today, for
up to 3,200 meters I came across grassy field terraces in some val-
leys, which were still so distinct that they must have been cultivated
T within the last 200-300 years. The Amdo Tibetans are great pig
231 breeders. Here, too, the Tibetan species is raised as in Hor and
Dergi. In contrast with the large, black, long-eared pig of the
Chinese, the Tibetan species is small and largely /310/ brownish or
white, but it, too, is long-haired. Its snout is pointed and its ears
short and upright. The meat is not nearly as fat and therefore not as
good, according to the Chinese taste. Yak bastards are preferably used
for field work. The Amdo keep red-haired cows to breed them, and
cover them with yak bulls.

T On the evening of September 25 Mr. Ruhl and I reached the town
361 of Hei tso. During the afternoon we had come across Dohar gomba
792 and then Dialu gomba, small yellow monasteries which are under the
jurisdiction of the monastery ruler of Labrang. Between them small
T villages lay strewn about, none with more than 15-20 tiny houses.
[342] The individual family seats stand close together and consist of small
loam houses with flat roofs and walled courtyards. They are one-
storied and on the roofs was stored the harvest which had been gathered
a few weeks before, and stacked in round piles like domes or giant

6: Tafel--508 T-3 (1905-1908) 1914 AJ1 Tibet

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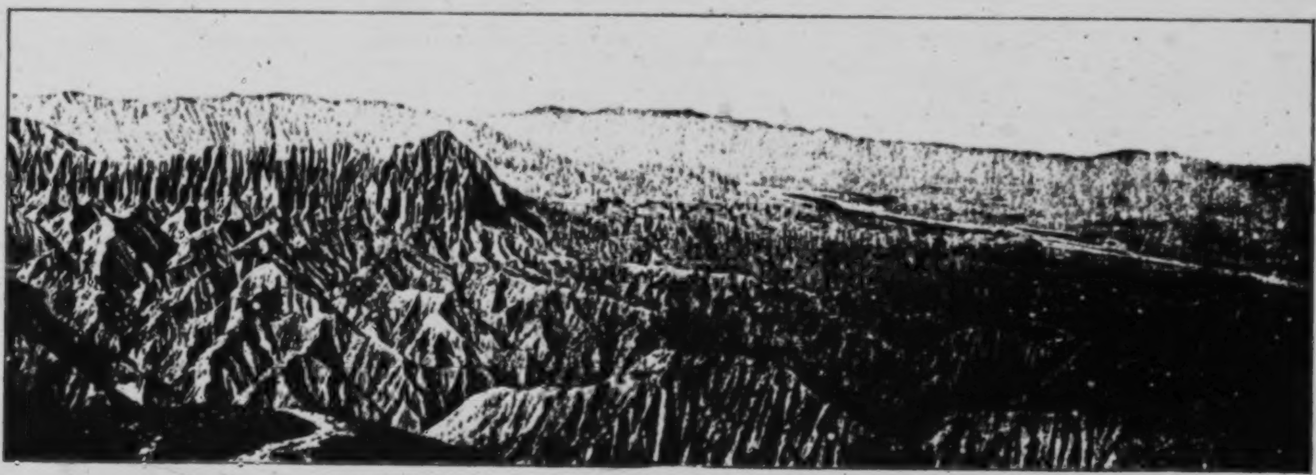
Plate LXXII.



Shapes taken on by disintegrated red Pliocene clay in the lower Tao Ho Valley.

Tao Ho and oasis of Tang wan tschwan.

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the river of Sang Chu begins, and it is transported on rafts made of tubes. Since 1900 trade in North Tibetan wool has taken on very significant aspects and the prices for raw wool have thus soared all at once in all of Kansu. The Yang hang, the agencies of foreign export firms, have thereby not become popular with the people, however; on the contrary, since all food supplies have risen concomittantly, the export firms are blamed for it, and rightly so.

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takes us into the loess country of Kansu and a white, dry hood of dust lies over the landscape. There are no more rocks to be seen. Only thick loess and beneath it red loam are the materials out of which the hills on either side of the valley are formed. There is one village after another. Soon the road is seething with people. They are hurrying to the market of Hanchow, in carts or mounted on donkeys, or mules, and covered with dust. For a little while the Tai tse Shan which my Sang River must break through on the way from Labrang sends me a farewell greeting from Tibet. A defiant warrior, a true Tibetan watchman, stiff and rigid with steep battlements, it gazes down upon China and upon the pale and barren loess. Too soon, however, it is lost to view; the loess haze lies too dense and thick over the valley. It had been only four days since it had rained and already the eye could not penetrate the fine dust for a great distance.

Two years before on my way from Di dao tschou I had become acquainted with the clay basin of the Ho tschou region where it extends from east to west. This time /323/ I traveled through it in a straight line to the chief city of the province, Lanchow fu. I had now reached the Chinese highways and the region of the hostleries in which I could get nourishing food for the animals; therefore I traveled from morning till night and in spite of my slow pack animals, the many mountains and poor roads, covered 100-140 li a day (50-70 kilometers).

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Very near the city of Ho tschou - exactly east of it - a mule track climbs up to a narrow, winding loess ridge which holds up the traveler for a day and a half and takes him through a labyrinth of deep ravines up to the banks of the Tao Ho (Plate LXII). At a depth of 20-30 meters loess covers the 300-400-meter mighty red clays and sands which in the main are deposited horizontally and in narrow ravines have been washed away by the flowing water, down to a substrata of granite. In the places where there is loess, civilization is possible. However, in the vicinity of the Tao Ho River it became

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scarcer and there the population became more scant. Whereas I saw a small granery just outside of Ho tschou and counted hundreds of villages, the country around the Tao River became a sterile desert. The blood-red sand mountains in the shape of perpendicular pillars rose up out of dray valley fissures and there was nothing green to be seen anywhere (Plate LXXIII). In the narrow irrigated strip beside the Tao River the Mohammedan town of Tang wan tschwuan with its pretty mosques is an oasis in this wilderness. Giant water wheels lift the necessary water out of the river. Here we are already in the district of Lanchow. On the opposite bank the aridity is still worse. There the last fateful religious wars destroyed whatever was left that nature might still have tolerated. This wilderness lasts for a distance of six hours, as far as the 2,725-meter pass and an obo of the Hou dien Shan (rear sheltering mountain), until one has reached the crest of the Kwan Shan- and Hsin lu Shan range with its altitudes of 2,800-3,100 meters. After that loess appears again in great abundance and with it populated regions. /Fig. 15 appears on p. 323./

/324/ The tops of these sandstone chains are adorned with green forests of shrubs. In the ravines the Chinese dig for coal. From the heights the eye looks down on the vast loess country of Kansu. It is a yellow, chaotic tangle of peaks, this loess with its millions of grooves, which stretches endlessly to the north and only in one place a narrow, crooked band of silver like a Turkish scimitar lies glittering before me, - a sunbeam discloses the presence of the Hwang Ho. And now, as we ride on, a narrow green strip with trees, with poplars and jujubes, becomes visible, a tiny border along the shore, hardly worth speaking of. It runs along with the band of light until both come to an end at a projecting strip of mountain. On the projection two clumsy towers of loam of the same lifeless color as everything else around us are discovered and indicate to me the position of the chief city of Lanchow fu. On the same day on which I had left the Tao River I rode through the city gates and the narrow streets of the city. It was already getting dark and at the second gate inside we were the last ones which the guard permitted to enter on that day. But our haste was rewarded. Not an hour later I sat down to a meal that made me forget the tasteless tsamba and the eternal daily goa mien. At the postoffice where I went that same evening I not only received letters from home - the first for a year - but was also warmly greeted by Mr. Shields who had come some months before from down south in order to establish the postal system in the province of Kansu. Anyone who has the good fortune to know this gracious and

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000 entertaining Scotsman knows that on this evening I could not have fallen into better hands, and that in the short hours before midnight my diaphragm had to withstand almost inhuman salvos of laughter. I hoped to meet other old acquaintances in Lanchow fu, but this time I was disappointed. My friend Van Dyk was with his bishop in the mission of Liang tschou fu for the annual retreat of the fathers. So, much to my regret, I could not even shake his hand in gratitude for his active participation in my efforts in safeguarding in his home the booty of my individual expeditions.

491 I stayed in the chief city until I had found a freight transport with which I could make a contract to have my baggage brought to Hsingan fu as soon as possible where I could pick it up again. Inasmuch as Mr. Shields helped me in this matter, I was able to leave the city in a few days. I rode on the large military highway between Lanchow fu and Hsingan fu, the road which also follows the telegraph line and which in the '70s the re-conqueror of Turkistan, the great Tso ts'ung tang, had had bordered with poplars for a distance of hundreds of kilometers. At one time, in order to protect this avenue, he put a death sentence on every wanton destruction of a tree. The trees still stand for stretches covering many days' journeys, but the track often cannot follow the old avenue for long stretches. Loess makes the ground too loose. Rains have often lengthened and deepened the valley fissures by hundreds of meters and thus the rows of trees border ravines which today no man can cross; meanwhile traffic often had to take an entirely different direction.

361 At the stopping place of Ngan (An) ting hsien the camel- and
487 /325/ mule-drivers who take care of a large part of the freight traf-
fic between Kansu and Shensi, take a somewhat more southerly route
• 133 than do the carts. I continued to follow this mule track and decided
to combine it with a stop-over at Ts'inchow, the richest city of Kansu.
In the vicinity of Ngan ting hsien the country is still rather thinly
populated. Only after 100 li did I get to Niu yin, a town of 100
families, and 20 li beyond came Ma yin which has 400-500 families
and a larger market. Close by, the brook breaks through a granite
range, the first solid rock that I saw since the Hwang Ho ditch near
Lanchow fu, and behind Ma yin the loess became thinner and only
a few decameters thick. The density of population increased visibly
and the Mohammedan element which is very numerous along the
road near Huining hsien and Lung te hsien, Ping liang fu, fell into
133 the background. I had now come into a definitely mountainous

area; the Hu lao Ho River must here wind its way largely through narrow ravines of granite and gneiss. However, even here most of the mountains consisted of red loam of amazingly large proportions. 133

The farther south I came, the richer became the soil. A day's journey north of Tsinchow, kao liang, rice, and cotton appeared and these fields interchanged with endless stretches of persimmon trees the sweet fruit of which hung fiery red on the bare, leafless branches, and presented a picture which we so often see on the colored prints of Japanese painters and which seem so unreal to us. Unfortunately, I was obliged to carry out my long endurance rides in the south during almost steady rains. 241

I found the city of Tsinchow (1,130 meters above sea level) very different from the rest of the Kansu cities; I saw practically no house in ruins. Most of the buildings are made of brick and stand in the midst of gardens and thousands of fruit trees. The city has a little more than 50,000 inhabitants, among them 4,000 Mohammedans. Here, too, however, the merchants complained of the inconsiderateness of the administration which was constantly creating unfair taxes and new difficulties for trade, so that a great many hangs which arranged transports to Han tschung fu and Szechwan, had to close up in the last few years. But even so the city is slowly growing. The houses are squeezed into five separate walls and even outside the walls there are living quarters and this makes a picture that is entirely absent in northern Kansu. In ancient times the city was called Tscheng schi hsien and the first emperor of the Tang dynasty was said to come from here. Not far to the north on a mountain lie the loess ruins of almost completely disintegrated remains of walls from the Han period like the walls of ancient Teutonic times, in which Duke Wei hsiao gun was said to have lived for a time as an independent ruler (25-58 A.D.). Today the plow leads over the site. The bad Fan li hoa is also supposed to have been born not much farther from the city in the present-day Fan kia tsch'eng, and the inhabitants maintained in all seriousness that within the district, in the market town of Be yang Chu, the descendants of the family of Ming emperors live under the assumed name of Tschang, formerly Tsche. 361

The city owes a large part of its fresh appearance to the fact that it happened to escape the Mohammedan disorders as well as the incendiaries of the Tai /326/ ping era. At that time the battles reached as far as Tsing ngan hsien and the latter as well as Tsing schui hsien in the north and Hui hsien in the south, all three of which

361 are under the tschi li tschou of Tsinchow, were sacked by the long-
haired ones and have since then not regained their former prosperity.
Corresponding to the well-kept appearance of the dwellings of Tsinchow
was a beautifully cultivated temple hill, Taischan, on which, among
ancient trees, stands the Taoist and Buddhist pantheon, and which is
also used as an entertainment park on festival days. In the Tschung
tsch'eng, the center of the city, I visited a very pretty mosque which
is over 400 years old. In the da (large) tsch'eng which is also en-
closed by a wall, are the yamen of the dao tai, the tschi li tschou
and a major; in the walled hsi (west) kwan are the large commercial
concerns; while in dung (east) kwan are the extensive buildings of
[592] the apostolic vice-regency of South Kwan, in which I was warmly
welcomed by Bishop Ter Laak. These Belgian missionaries said that
133 the Tsinchow district has a great many earthquakes. Count von
Széchenyi knew about these, too, and in the history of China there
are several major catastrophes mentioned which struck the region
of Kung tschang fu and Tsinchow. Besides, in this region I noted
many and large landslides. Here mountain sides of loess a kilometer
square slide off on their clayey substratum along with all their fields
and villages.

554 One morning in the main street of Tsinchow I met a good old acquaintance, the scholar Li, who was with us in Tibet in 1904. As he spoke of his present position, a satisfied smile broke out over his entire, broad face. Originally tailor by trade, then shoemaker, painter, beginning with his 38th year student, then secretary and maker of calendars, in between small merchant, finally schoolteacher for children of 10, then our scholar, he was now, in keeping with the needs of modern times, professor of French at the newly-built college in Tsinchow, and a very respected man who moved only with the greatest dignity and very slowly crossed the street, "practicing quiescence." Meanwhile he had made a map of the entire Tschou bailiwick, having been commissioned to do so by his superiors, and whereas at that time when we left Lanchow fu with him for Tibet, he knew only 10 Latin words, he could now already "count in French." He had 50 pupils of the ages between 20 and 35. His teaching position earned him 20 taels a month with which he also supported his family which he had left in Lanchow fu. He was now a small lao ye, a gentleman official, and on the street he was greeted on all sides with veneration.

178 Of the new era which had begun for China one was little aware in Tsinchow, except for the school, its classes for foreign languages